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*"Scire est nescire, nisi id me Scire alius sciret."*

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## THE FAMILY DOCTOR.

The Presidential Address, delivered on October 11th, 1905, at the opening of the Thirty-second Session of the Bristol Medico-Chirurgical Society.


BY

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IT was in March, 1874, that this Society first saw the light, under the presidency of the late Dr. Brittan, and from its infancy, through childhood and adolescence, up to the present, the thirty-second year of its sturdy life, this chair has been occupied in sequence year by year by men who have emulated his good example and have maintained the dignity of the office at a high level.

I therefore feel very deeply the position in which I find myself, and before proceeding further I beg to tender to you my hearty thanks for the honour you have conferred upon me. I assure you that to the best of my ability I will perform my duty, and I only ask for your kind co-operation in guiding the business of the coming session. So large a number of my predecessors have been men holding high rank in our own

immediate medical world, that I feel in electing me you have paid a great compliment to the general practitioners of this city—a large and, I venture to say, wholesome brotherhood to which I am proud to belong, and for which, during this year at any rate, it is my pleasure and my privilege to be the representative.

And now after expressions of gratitude must come a humble confession—a confession of weakness. For months past the compilation of my inaugural address to you has been a source of great anxiety. I anticipated the difficulty, but I had not the slightest conception that the difficulty would be so great. It was not that the choice of a subject gave trouble—that was bad enough—but the setting down of one's thoughts in appropriate language has proved a laborious trial. I have often wished that for this one year, at any rate, I belonged to the class that are born to greatness, but it has been brought home painfully to me "that greatness has been thrust upon me." Men with a gift to write can take a theme, however humble, and with a fluent pen adorn it, but such a gift is not to me. So with this somewhat cheerless preamble I can only beg that you will be lenient with me, as with halting steps I trespass upon your time for a few moments in laying before you a few views that have been forced upon me during the eighteen years that I have been engaged in family practice.

Although still young in years, I feel that professionally I am sufficiently ancient to plead justification for taking such a course, for it is now twenty-seven years this very week since I first joined the ranks in medicine. It is impossible for a man to be engaged so long in our arduous calling, if he be at all thoughtful, without his formulating *some* ideas. From force of circumstances his notions may possibly be, and no doubt are, often fashioned in a narrow groove; but however narrow and however insignificant they may be, it can do no possible harm to let them see the light of day. The calls upon the energy and the time of a family doctor are so great, that there is little margin left for the development of those qualities which would be instrumental in adding to the store of general medical knowledge. It is a thousand pities that this is so;

for the opportunities for collecting clinical material of value in general practice are so great, that I for one would gladly welcome any method whereby such material, often lost, could be utilised.

Dr. Michell Clarke, in the very charming address which he delivered in June last before the local branch of the British Medical Association, said very wisely: "After all, a physician, however erudite he may be in other branches of knowledge, should be learned as a physician first and erudite in other ways afterwards." With this I absolutely agree; but I fear that it is this very consciousness of weakness that keeps our family doctors from coming forward more often than they do at our medical meetings. They feel that unless they can bring to bear upon their efforts that erudition which more gifted men find no difficulty in displaying, that possibly their offerings will not be well received. But in this year of grace let us do our best to prove that this is an erroneous notion. Please let me beg of you to come forward with your plain, unvarnished tale, and I give you a pledge that your mite will be welcome. If in the fierce light that beats upon discussion you should feel aggrieved, let me advise you that it will be all in a brotherly spirit; therefore be not discouraged, for the success of a paper is measured by the discussion it provokes, and far better than a chilly silence is a perfect storm of opposition. It would afford me the greatest personal satisfaction during my year of office to see the names of my fellow general practitioners more often in evidence on our monthly programmes than has been the case in the past. If this is asking too much, I would at least add an earnest invitation to them to be present at our meetings in greater numbers, and allow themselves to be tempted to join in our discussions. In hospital life there is no safer guarantee of efficient, up-to-date work by the staff than the presence of students, and I feel sure that in this post-graduate gathering of ours there can be no better stimulus to good work all round than the constant presence of a large and varied audience. It is always a great pleasure to even listen to an animated discussion, and though one side or the other may carry off the palm,

still like good sportsmen on the tennis lawn or the cricket field the vanquished take their beating well. We meet in this room on common ground, and in the most friendly spirit criticism is given and received. It is a gymnasium where each one may join in the fencing if he so desires; but however sharp the bouts may be, we know with a certainty that there are no poisoned rapiers in our rack, and our foils are always buttoned. If, therefore, in the few moments at my disposal I can by any words of mine suggest a thought that will be of service in bringing into line the hidden talents in the minds of our general practitioners, or encouraging an effort to overcome the restraining influence of modesty, I shall feel that I have not spoken in vain.

In the early days of my work I frequently heard words spoken in disparagement of the family practitioner, and possibly I was guilty of joining in the conversation myself. He was often held up to ridicule and contempt as a man of inferior clay and poor attainments, whose very name was synonymous with incompetence. He was spoken of as a man holding a position to be shunned by all who (according to their own standard) were men of a higher sphere of intellect. He was dubbed with the ill-sounding sobriquet of G. P., and, like his namesake amongst his patients, he was so far a general paralytic that time alone would account for his effacement, and in his place would arise a set of superior persons who would condescend to attend to the ailments of poor suffering humanity at high fees and by appointment only. Experience has taught me to smile at this puerile nonsense. I have become a family practitioner myself, and though my remarks may savour of egotism, I have come to the conclusion that he is not such a bad fellow after all.

The general public in recent years has become so much more enlightened in matters medical that it has become more imperative than formerly for the men who wish to be successful to set before themselves a very high ideal of excellence. The layman has come to discuss medical topics with a familiarity that is often astonishing. He knows all about germs, will talk glibly of appendicitis and of adenoids, and he is just as much

at home in discussing the theory of the causation of ague as he is in speaking of the advantages and disadvantages of the open-air treatment of phthisis. He understands the baneful influence of uric acid in his system, and he is quite prepared, without any prompting even, to criticise our prescriptions. Whether this enlightenment adds to his own material happiness is doubtful, but that it exists there is no doubt whatever, and we must recognise it. In days gone by "a shake of the head and a vague allusion to the liver" might suffice, but to-day that is insufficient. Our patients now require "chapter and verse" for all our assertions, and happy the man who is always in a position to give them. Under these altered circumstances, in order to preserve our self-respect and our superiority, it becomes more and more of a necessity that our medical education should be standardised to meet the modern requirements; the young man of to-day must be made to recognise that when his time comes he will have to face a public whose questionings will be far more rigorous and searching than those of the examiners, whom he fears, at the Conjoint Board. He may fondly imagine that when he has crossed the Rubicon of his final examination and is legally entitled to write certain magic letters after his name that all will be plain sailing, but he will find that it is not so.

We know as a fact that the majority—perhaps it would be better to say nearly the whole—of the students of medicine will eventually have to earn their living as general practitioners. Whatever their hopes and aspirations may be in the beginning, or whatever exalted ideas they may develop in the course of their training, there will come a time when the battle of life must be faced, and they will find that the only courses open to them are those that lead to general practice. They will find that in the keen competition which has already begun—even in the student days—the higher walks of medical life will be won by those who have a right to them, and the medical student as we know him is not a fellow to be discouraged because he is beaten in the race by a better man. To borrow a Napoleonic metaphor, every student starts with a field marshal's baton in his knapsack, but he knows, without the telling, that precious

few will ever wield it, and the rest must be contented with a position that carries a lower title; but I will say this, and I wish to emphasise the point, that though the position may be shorn of the patent of nobility, still it is no less honourable in the opinion of his fellow-officers and in the eyes of the world at large. The spurs that are to be won by the general practitioners of medicine are just as bright as those that belong by right to our consulting physicians and our operating surgeons. They can be honestly won by honest work, and though they may not be of gold, yet steel is very useful, and at any rate we have the proud satisfaction of feeling that the burnish is not electro-plate. By accident, or good luck, whichever term you put to it, these spurs may be won in early life, but in most cases they only come after years of arduous toil. How can we ensure that a still larger number shall attain the full measure of success at an earlier stage? I think this can be done by some improvement in our early education.

Do we give our boys the best possible start? Do we teach them how to earn their living at the earliest possible moment? I do not think so. To be practical, if it is to be the rule that young doctors are not going to earn their first fee before they are 28 or even 30 years of age, then our doors will be closed to all but the sons of the wealthy, and our ranks will lose some good men. In my time I have seen the length of the curriculum altered from a minimum of four years to a minimum of five years; but even this does not suffice, for students are so alarmed at the magnitude of their work that they only venture before the examiners with one subject at a time, with the result that the five years are easily expanded to a length that gives rise to serious misgivings in the minds of parents and guardians. In my humble opinion our young men do not learn their responsibilities early enough. I would myself like to see more of the spirit of the Royal Navy infused into our early medical life. The midshipman may learn in a hard school, but it is good for him and good for the service. He is very quickly made to understand and to realise the responsibilities of his calling, and at a very early stage in his career he becomes a capable and self-reliant individual. He

not only knows his work, but he has learnt concurrently how to apply it.

To the earnest student of medicine there is no doubt that the facilities and opportunities for acquiring a reasonable knowledge of his profession are manifold; and it is entirely his own fault if he fails to take advantage of them. But granted that he has made such good use of his time that he becomes a walking encyclopædia, still he will find that when he comes to apply his knowledge to actual medical practice, there is still an enormous amount to be learnt, and instead of the bed of roses that he may have anticipated, he finds that his path is full of thorns. I do not say this with any motive of discouragement, for I know that the difficulties are over-ridden in time; but I should like to see something added to the curriculum to give our students an opportunity of practice in the homes of patients, where they would learn to avoid those pitfalls that chance at almost every step.

I know it is rank heresy to say so, but I cannot help thinking that it was a mistake entirely to do away with the old-fashioned custom of domestic pupilage, especially as nothing was suggested even approximately to take its place. Under the old régime a student, at the same time that he was studying in the hospital and the schools, was quietly, almost unconsciously, assimilating a vast amount of knowledge and material in the private dwellings of patients, under the guidance and supervision of the master, an asset that was instantly of service to him upon his obtaining his qualification and starting on his own account. Now when he enters the profession he finds that he has to learn all this for himself: he has to accommodate himself to the difficulties of managing patients, and many a hard knock he will get before he has thoroughly learnt his lesson. Rebuffs wound more deeply now, for he is a fully qualified medical man, and possibly has acquired an undue sense of his own importance. But he must be prepared to experience much heart-burning and many little trials of temper before he finally feels his feet, and settles down to the practical methods that ensure success. I well remember in my own beginnings having to hear things that were hard to put up with. On one occasion I was making my first call at a

house on behalf of my dear old partner Mr. Corbould, who chanced to be away from home. I had evidently been seen as I approached the house, and my somewhat youthful appearance had evidently not impressed the good people, for after I had been waiting in the little sitting-room for a few minutes, the daughter of the house came in, and said: "Mamma sends her compliments to you and thanks you for calling, but she thinks she would rather wait until your papa comes back." This was a sharp knock, but fortunately I took it philosophically. It is so long ago that I hardly remember what I did or said, but before I left that house I had been upstairs and seen the patient, and to this day that family remains on my list. I take no credit to myself for this result: it was simply the outcome of the experience I had gained during my four years' pupilage in Leeds. We boys soon got tired of being sent back—sometimes rather sharply—a second time to a patient who had refused to see us, so we set our wits to work to make one journey suffice.

It would be presumptuous on my part to suggest a remedy for what I honestly feel is a defect, but if it came to a discussion and I were asked to give my views, this is what I should say: In the first place, I am a great believer in the virtues of the office of "student for the week." It is a fine thing for the students in Bristol to know that each and everyone has at any rate at some time in their career been a hospital resident. But I would extend it. I would have a student for the week not only at the Royal Infirmary and General Hospital, but I would have one at the Children's Hospital, at the Fever Hospital, and at the Workhouse Infirmary. I would let each man in his turn take a three months' course as assistant to the medical officers at the Bristol Dispensary. I would appoint a certain number of general practitioners of repute on the teaching staff, and for the last year of the curriculum I would have students become their resident pupils and assist them in their work. Further than this, I would suggest that some general practitioner of medicine be put upon the Court of Examiners. In this way it might be possible to evolve a man who not only knows his work, but who knows how to go about his business.

It is hardly necessary for me to say that a young doctor

does not jump into a large practice all at once; but sooner or later, when success has smiled upon him, he will find that in order to keep pace with his work he must contrive some procedure with method in it, and he must combine efficiency with rapidity, or he will fall into the fatal error of superficiality and slovenliness.

The fact that perhaps is most forcibly brought home to the mind of the practitioner in the initial stages is that a very large proportion of the ailments that he is called upon to treat are what in his hospital days he would have considered trivial—so trivial indeed as to be absolutely beneath his notice with so much that is serious around him; but he must recognise that upon taking a right line in treating these insignificant cases much of his ultimate success as a doctor will depend. He will be compelled to learn that what *he* may consider are trivial ailments are not trivial to the patient, and it will be well for him to formulate a method of placing himself in his patient's shoes and saying to himself, "What if I felt as this man does; should I consider it trivial?" In fact, it requires no great effort to recall to our recollection the fuss we ourselves made over that last toothache, or the magnitude of our woe during that temporary attack of dyspepsia. It is well to recollect these things, for "a fellow-feeling makes us wondrous kind," and the poor sufferer is already half relieved when he feels that he is pouring his doleful tale into a sympathetic ear.

A patient does not take the trouble to consult a doctor (especially when he is prepared to pay for the privilege) without anticipating that he is to receive some consolation in his suffering and a word of advice to give him relief. He may have absolutely nothing physically wrong with him—from top to toe his organs may be as sound as the traditional bell, but there is a rift within the lute—a trivial rift maybe—but it is sufficient to put all things out of tune. It would be cruel and brutal to give him scant attention and send him away brusquely. No! Far better to devote some time to him and give him a thorough examination. In his morbid state of mind there is no doubt a secret fear, which he has not the courage to express, that his symptoms may possibly be the

beginnings of some grave organic disease. With the irritating cough of pharyngeal catarrh he imagines that he may have consumption. How can you expect to convince him that his lungs are sound if you have not examined his chest? The palpitation that arises from flatulent dyspepsia compels him to fancy that he is suffering from heart disease. How can you convince him to the contrary if you have not used the stethoscope? That vague pain in the back makes him fear that there is something seriously wrong with his kidneys. How can you negative this to his complete satisfaction if you never examine the urine? When all this is done, and not till then, are you master of the situation, and able with conviction and satisfaction to the patient to express an opinion on his case. You can then say truthfully, "I have examined you very thoroughly, and I find absolutely no trace of any organic disease about you. Your symptoms are due to so-and-so, and I think it will be no difficult matter soon to set you right." It is a happy moment when a patient says, "Good-bye, doctor; I thank you for your attention. You have taken a lot of pains with me. I thought when I came to you it was a bad look-out, but I feel better already." In citing this example, I do not wish my words to be misconstrued into an advocacy for unduly magnifying minor ailments, for that would savour of humbug. My desire is rather to establish a principle of thoroughness in the examination of all cases, however unimportant they may appear at the time to be. It is only by thoroughness of examination that we can put ourselves in a position to give our best advice, and it is only by honest painstaking that we can hope to avoid falling into error. It should be a guiding principle to us all to do our very best for the patients who entrust themselves to our care, and it is irrational to suppose that success will attend our efforts if we do not at first find out what is the matter with them.

This leads me to my next point, the absolute importance of diagnosis. Diagnosis is the only sound foundation of successful therapeusis, the very bed-rock of rational and scientific treatment. Without it we are simply treating symptoms, and become nothing more nor less than empirical drug dispensers. To discover the *fons et origo mali* whenever possible should be a

first principle in our practice, and although we may find this is a great difficulty, in fact at times an absolute impossibility, still there will be few cases where it will be impossible to arrive at any rate at a working hypothesis, and we need not be discouraged in our honest efforts to unravel the problem. With this idea before him, the family practitioner, with his time so fully occupied, must cultivate a method of rapidity, sifting evidence and seizing upon essentials, and it is surprising how he gets unconsciously into the habit of rapidly interpreting facts that are disclosed to his examination. From the very nature of his work it is not absolutely necessary that he should come to a complete judgment at the first visit, but at any rate he must so far grasp the salient points as to place his patient in a position of safety until he sees him next time. It is here perhaps that the general practitioner holds a considerable advantage over the man who is a pure consultant, for his opinion need not necessarily be formulated until he has had further opportunities of following up the sequence of events, whereas the consultant is merely able to give an expression of opinion and a guide to treatment on the evidence that is brought to his notice at one visit only.

Prof. Clifford Allbutt in one of his many addresses has said: "This training of sense and inference in the absence of science made Hippocrates a physician of no mean skill and insight. It has made a valuable helper of many a doctor of modest scientific acquirements, and it makes perhaps the larger part of the gifts of the best of us, that quality without which all the rest is vain." These are happy words to encourage us to train our faculties of observation. Let us see that the hand and eye be true. Instruments of precision are of inestimable value, but sometimes I feel it brought strongly home to me that too much reliance is coming to be placed upon them, and primitive methods may become neglected. I do not like the idea of diagnosis by machinery coming to the forefront of our calculations. I would rather trust to the utility of the senses, and only make use of instruments of precision to corroborate what one has already conjectured.

It would be well if we endeavoured more often to develop

the attributes of the scout and to study more closely the methods of woodcraft. By woodcraft I mean the tracking of animals in a state of nature in the ordinary pursuit of game or of hunting, and perhaps no better example could we give than that which occurs in our adjoining county of Somerset in connection with the Devon and Somerset Staghounds. If the hunting of the stag were conducted on the lines that are followed in the shires in following the fox, successful days would be few and far between. Deer, as we all know, run in herds, and to send a whole pack of hounds into a covert would result in the pack being divided, so that a couple would follow one deer, three or four would follow another, and the whole hunt would be in confusion. It is necessary, in order to pick up a warrantable stag, that his whereabouts should be located, and this duty devolves on an individual who is called the harbourer. He is a man skilled in the ways of the deer, and who, by natural instinct and years of practice, has developed a wonderful power of tracking. His object is to find a stag old enough to be worthy of hunting, and for some days before the meet he makes it his business to search for evidence of an old stag being in the neighbourhood. Young ash trees must be examined to see if the young shoots have been nibbled. The bark of trees is scrutinised to find a transverse bite rather than the up-and-down gnawing of the hinds—the stems of trees show signs of having been rubbed whilst fraying the antlers—and from the height of the injury he can judge of the size of the animal that has caused it. But most important of all, he must look for the footprints, the slots as they are called. These he will find on the soft soil at the edge of a pool where the stag takes his bath before retiring to his rest, and also at some gap or other leading into the covert. I need not describe the individual peculiarities of the slot of an old stag; suffice it to say that they are so striking as to make them unmistakable to the practised eye of the harbourer.

With these preliminary observations he has made himself acquainted, roughly, with the usual behaviour of the deer in this particular district, and on the afternoon before the meet he takes a run round in order to obliterate any tracks that are

to be seen, so that he starts with a clean slate on the eventful morning, when he must be up with the dawn on the trail of the deer as early as possible after the midnight feeding, for he knows that they retire to lie down for the day at the first glint of daylight. He casts around until he finds the particular slot that he wants, and he must find impressions of it at an entrance to a covert to show that the animal has gone *in;* and more than this, he must go over all the gaps in the fence to make certain that there are no impressions which show that he has gone *out*. When he is satisfied with all these points he knows that the stag has made his bed in that particular plantation; he is said to have harboured the animal; one may say that he has diagnosed—stag. For the sake of his own reputation and the success of the hunt he must be quite certain about the result. It will not do for him to say, "I think there is a stag somewhere about." No, he must be in a position to say that the animal they want is there, and it is great testimony to his method and to his skill when I tell you that he rarely, if ever, makes a mistake. He tells the huntsman at the meet the result of his search, and then by means of a few hounds called "tufters" the warrantable stag is roused from his lair, the rest of the pack is laid on, and then begins a chase which has not its equal in any other part of the British Isles.

In a very suggestive paper written by Sir Lauder Brunton many years ago on the method of Zadig in medicine he brings into prominence these faculties of tracking, and as his words describe them more eloquently than I can do, I may be pardoned for the quotation. He said: "It is not only the outward signs that we have to differentiate. We are obliged to judge of the unseen from the seen, and from the objective data that are presented to our senses we must draw conclusions regarding the processes which are going on or have already gone on in the persons of our patients. We must, in fact, track symptoms which we see back to their causes. Now the process of tracking appears to be a fundamental one in man, and one which really seems to be a remnant of the qualities possessed by our prehistoric ancestors. It is a reversion in the faculties of the mind; and the keen interest

in tracking game by which prehistoric man was enabled to exist still evidences itself in the intense eagerness with which boys read in Cooper's novels about Indians following the trail, or adults will pore over narrations of Gaboriau's stories of the police on the track of criminals.. . . . There can be little doubt that the profession of medicine is a most intensely interesting one, and I am inclined to think that its special charm is to some extent at least due to the fact that it is constantly demanding the exercise of these qualities of tracking which we find in Cooper's Indian heroes."

As described by Voltaire, "Zadig was a young man who, disgusted with life, retired from Babylon to a lonely place on the banks of the Euphrates, and there studied animals and plants until he saw a thousand differences where others could only see uniformity. One day one of the queen's eunuchs, followed by a band of officials, came hastening past, and asked Zadig, 'Have you seen the queen's dog?' Zadig modestly answered, 'A bitch, I think, not a dog.' 'Quite right,' said the eunuch, and Zadig continued, 'A very small spaniel, has lately had pups, limps with the left foreleg, and has very long ears.' 'You have seen her, then,' said the eunuch. 'No!' said Zadig, 'I have never seen her, and did not even know that the queen had a dog at all.' Asked to explain, he said, 'I noticed one day in the sand the tracks of an animal which I easily recognised as those of a small dog, long and evenly marked furrows imprinted where the sand was slightly raised between the footprints told me it was a bitch, whose dugs were drooping, and that consequently she must have given birth to young ones only a few days before. Other marks of a different character, showing that the surface of the sand had been constantly grazed on either side of the front paws, informed me that she had very long ears, and as I observed that the sand was always less deeply indented by one paw than by the other three, I gathered that the bitch belonging to our august queen was a little lame, if I may venture to say so.'"

This may all present the glamour of a fairy story, but I think that perhaps it would be as well if we brought to bear, more often than we do, in our efforts in arriving at a proper diagnosis,

the subtle and unerring methods of the scout, the harbourer, and of Zadig.

In addition to this I would plead for a cultivation of the artistic sense, that perfect one which grasps the ideas of symmetry and proportion. I think it may be accepted as a truism that the germ of this sense lies latent in the minds of most men, but in doctors I consider that every encouragement should be given to its development. This sense should be cultivated to such a degree, that it not only appreciates that which is perfect, but should also feel grieved at the sight of anything false. It finds expression in different men in different ways. In one it may be an appreciation of form and colour, in a second it may rapidly discern the various points of a good horse, whilst a third will find his sense gratified by looking on the beautiful tower of All Saints, Bristol, as he walks up Clare Street on a sunny afternoon. The doctor, on the other hand, should have a vivid mental conception of the ideal human form, so that any deviation from the normal, in one way or another, should instantly offend his artistic sense and as rapidly prove to him that some abnormality is present.

Perhaps more often than we are aware do we carry out the elucidation of our cases by building up a living picture. Facts that are on the surface are registered by the sensitive retina unless one is afflicted with intellectual blindness, but there are things lying hidden within that require the use of other senses to bring them out. We may have to call into use our sense of hearing, our sense of smell, and perhaps not the least important the sense of practised palpation—the sense which gives us an eye at the end of every finger, and which in its perfect form we call *tactus eruditus*. We may even be called upon to utilise the faculty of imagination, the gift which in the words of Shakespeare "bodies forth the form of things unknown, turns them to shapes, and gives to airy nothings a local habitation and a name." Using our senses, one almost might say, like the lenses of a stereoscopic camera, we gradually build up a picture until it more and more accords with the clinical symptoms—the details more accurate, each and every point standing out more and more prominently in relief, until at

last, clearly defined before us in all its completeness of detail, stands our clinical picture—our diagnosis. Until this picture is complete in all its details we must not rest satisfied, and it is when we are baffled in the attempt that it is wise to call upon a brother artist to come along and help us in the matter. And here it is, I think, that the value of a consultation can be so satisfactorily explained in this pictorial fashion. The practitioner relates his experience of the case; he gives the symptoms, the progress, and its daily variation; in fact, he places the picture so far as he is able to portray it boldly upon the easel. He says, "So far I have got, but beyond this point, as you will see, the picture is not perfect, and I want you to complete it for me if you can." What a much better chance there will be of the master hand making a brilliant drawing under these circumstances than if he had not had before him the helpful and preliminary sketch!

In speaking of the careful compilation of this clinical picture, it may be gathered that I am opposed to the sharp practice of snap-shot diagnosis, which in the words of the cautious Scotchman may be said to be "varra smart, but it 's varra risky." Only once did I ever allow myself to be tempted into a diagnosis of this kind—a diagnosis on true Sherlock Holmes lines. The gardener of a patient of mine came to see me suffering from an irritable rash on the hands and forearms. On questioning him about his work, I found that he had recently been busy in repotting a large number of plants of *Primula obconica*, which evidently was the cause of his trouble. The very next patient that came into my room was a lady, a stranger to me. She unfastened her gloves, and laying her hands upon the table, asked me to tell her "what was the matter with her skin." Her hands were an exact reproduction of those of the gardener. The temptation was too great to be resisted. I said, "You are too fond of gardening. You have recently purchased some *Primula obconica*, and you have been busy handling them and placing them in your greenhouse." She gave a little gasp, and said, "You are quite right, but how on earth you know quite beats me." I felt at the time that the pleasure I derived was hardly an honest one, but that it was

very much akin to the delight of a conjurer when he sees the bewilderment on the faces of an astonished audience. Of course I had to explain that the patient that had just left the room was suffering from exactly the same thing.

Rather than this clever dramatic method I would encourage a careful formation of clinical pictures in daily work. In a long course of years engaged in family practice what a wonderful collection of pictures, we might call them "cerebrographs," will be gathered together. They make an asset which cannot be appraised at a price and which cannot be taken away. They are stored away in that gallery of magic which we call memory—a huge reference library that we, and we alone, can utilise for the benefit of our clients. This is really what our patients call "knowing their constitution." Now here is a phrase that is usually used in terms of cynicism, not to say flippancy, but I am firmly convinced in my own mind that it is a matter not lightly to be disposed of. Surely it is of some practical value that the medical man should be conversant with the thousand and one frailties that his experience has taught him beset their path, and it is certainly within the recollection of each of us that the knowledge of the past history of the individuals of the families entrusted to our care has many a time proved of absolute practical value. With these pictures stored away in the pigeon-holes of our memory, it is far easier to call upon them for reference than to refer to the laborious and arid notes that lie hidden away at home in a book that is possibly unindexed. It is surprising how they come back like a flash when occasion calls, and how they can be brought into requisition when we most require them. Not only are there the pictures of our successes, but there are the pictures of our mistakes, and we all make them sometimes, for it has been well said "the man who never made a mistake never made anything," and I believe it. There they are, these grim memories, and it does no harm to have a look at them sometimes. They are not difficult to find; there is no need to shake the leaves to find them, or to search in the pockets of the mental portfolio, for they only too readily show themselves; like a well-thumbed page of a book they are disclosed without

any trouble. Framed in black and engraved in no uncertain lines, bitten in with the acid of remorse, they stand out clear and vivid as a vigorous etching would--and not only do they warn us against similar pitfalls and mistakes, but in their contemplation we are chastened and more conscious of that proper sense of humility which compels a lenient view of the errors of our brethren.

In producing these living pictures, I do not wish you to approach the matter as a visionary, a dreamer of idle dreams, or even as an impressionist, but rather as a disciple of the realistic school with a slavish attention to detail, endeavouring with every sense to detect the slightest flaw, probing, digging, looking, leaving not a stone unturned until with conviction brought firmly to the mind that the track is struck at last, you pass to the full attainment of your quest, and in spite of every difficulty, and in the face of every natural obstacle, you have realised the solution of the problem which is before you.

I fear that the views I have brought forward have displayed me in a somewhat fantastic light, but there is charm in fantasy to my mind. I have endeavoured to revive your interest in a method whereby our daily task, instead of being a sordid, dry-as-dust ordeal can be made a delight; instead of living laborious days, if only we can cultivate an artistic enthusiasm in our cases, our work will cease to be labour and our vacations will become to be reckoned as only another mode of enjoyment. It has often been said that we scorn delights. I repudiate the statement stoutly. No one welcomes and appreciates delights more than the hard-worked doctor, and with this artistic method which I have endeavoured to set before you, I venture to think that the "laborious days" are less in number than most of us suppose.

And now for a practical suggestion. Each one of you, my brother practitioners, possesses a gallery of art at which we should like to have a peep. May I beg that you will allow the best of your pictures to be shown in our exhibition? If you are skilled in draughtsmanship you will place them on our walls; failing this you may draw word pictures, which I feel

certain we shall appreciate, and which will add to the mutual enlightenment for which our Society exists.

I have endeavoured to set forth, I fear most inadequately, the idealistic side of family medical practice, for it is better in times like these to take pleasure in the brighter side than to recount the pains and vicissitudes of which we are only too conscious. The appreciation of our work is often felt, but perhaps is seldom voiced; but this is what Robert Louis Stevenson says in his dedication of *Underwoods:* "There are men and classes of men that stand above the common herd—the soldier, the sailor, and the shepherd not infrequently, the artist rarely, rarelier still the clergyman, the physician almost as a rule. He is the flower, such as it is, of our civilisation, and when that stage of man is done with and only remembered to be marvelled at in history he will be thought to have shared as little as any in the defects of the period and most notably exhibited the virtue of the rest. Generosity he has such as is possible to those who practise an art, never to those who drive a trade. Discretion tempered by a hundred secrets, tact tried by a thousand embarrassments, and, what are more important, Heraclean cheerfulness and courage. So it is that he brings air and cheer into the sickroom, and often enough, though not so often as he wishes, brings healing."

Our dear old friend, Oliver Wendell Holmes, in his poem "The Morning Visit," gives words of advice that sound pleasant to our ears and give us encouragement in our task. He says:—

> "And last, not least, in each perplexing case
> Learn the sweet magic of a cheerful face,
> Not always smiling, but at least serene,
> When grief and anguish cloud the anxious scene.
> Each look, each movement, every word and tone,
> Should tell your patient you are all his own;
> Not the mere artist purchased to attend,
> But the warm, ready, self-forgetting friend,
> Whose genial visit in itself combines
> The best of cordials, tonics, anodynes."

With words like these ringing in our ears let us take

courage, and be assured that whatever we do let us do it with all our might, and ever keep before us the watchword to do our duty to our patients. They look to us for succour and for help in time of need, for relief in pain, and for sympathy in their suffering. They feel that not only do we stand by them in times of serious distress, but we have always a willing ear for all the little ills that make life miserable. Even more than this, our advice may often be sought in matters not strictly medical; for in times of family trouble there is perhaps no one better calculated to give sound, homely advice than the doctor. He shares their joys just as much as he shares their sorrows. They call him in their gratitude their guide, philosopher, and friend. He is trusted with a thousand secrets, for they have learnt to feel that he is a man in whom they can place their trust, and words committed to his care will lie deep hidden in his heart, never to be revealed; and it is a momentous and terrible time when they trust to him to be the only bulwark that stands between themselves and the dread messenger that comes to all sooner or later.

It is a goodly heritage that has fallen to our lot, and with such a trust as this it behoves us to make it secure that the men who hold such grave responsibilities should be men of the highest integrity and men of the highest efficiency in the best sense of the word, and I here register a hope that some of the giants of our profession and the admirable Crichtons of our craft will ever be found in the ranks of family doctors.

## ON TWO CASES OF MYASTHENIA GRAVIS.

BY

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BEFORE describing the two following cases of myasthenia gravis, which is also called myasthenia pseudo-paralytica, or asthenic bulbar paralysis, it may be well to recapitulate the chief features

of the disease, as although much attention has been devoted to this affection, it is still somewhat unfamiliar. Very briefly stated, the chief features are weakness, amounting sometimes to complete paralysis of voluntary muscles, those in constant action being most apt to be affected, especially the eye-muscles, the cervical muscles, and those innervated from the medulla and concerned in the actions of speech, mastication, and swallowing. The muscles of the trunk and limbs are also frequently involved. The chief characteristics of the muscular affection are loss of power after voluntary contraction, and return of power after a short period of rest, except in extreme cases, and the so-called "myasthenic reaction," which is not present in every case; in this reaction the muscles affected at first respond briskly to a Faradic current, but soon cease to do so if the current continues to be passed; after a short rest, if the current is reapplied, muscular contraction again occurs and passes off, and so on. Sensation is entirely unaffected. Muscular atrophy has only been present in a very few cases. The appearance of the face is rather characteristic, with drooping upper eyelids, immobility, lack of expression, and straight line of the mouth. Gowers[1] also lays stress on an affection of smiling, which he terms the "nasal smile" or, in extreme cases, "nasal snarl." This smile consists only in elevation of the upper lip, the zygomatic muscles being inactive, with absence of the normal movement at the angles of the mouth. The speech is peculiar; it is natural at first, but on continuing it becomes nasal, and then more and more weak and indistinct, so that the words cannot be distinguished, and speech comes to a stop for want of breath. These characters are well observed by making the patient read aloud. Difficulty of swallowing gives rise to choking fits, in which several patients have died. Attacks of dyspnœa also occur without apparent cause, and are dangerous to life.

To enumerate the chief symptoms, more or fewer of which may be present in any case, these are then ptosis, diplopia, complete external ophthalmoplegia, weakness of lips, characteristic facies and speech, difficulty in mastication and swal-

[1] *Brit. M. J.*, 1902, i. 1255.

lowing, inability to hold the head upright, weakness of palate and tongue, feelings of fatigue, of aching, and stiffness of the tongue, nystagmoid jerkings of the eyes, attacks of dyspnœa, sudden giving way of the legs, a disorder of writing similar to that of speech, weakness of one or more of the limbs and of the trunk muscles. Marked remissions in the symptoms are characteristic of the course of the disease in most cases.

Hun has collected 114 published cases[1]; of these 40 were males, 72 females. The average age of onset was from 20 to 30, one only under 10 years. (In this connection the second case I report is unusually old, 63 years; Dziembowski has recorded a case in a patient of 80.) The causes, or rather the antecedents of the disease, for the cause is unknown, were in 42 cases "nervous." In 22 cases infectious diseases preceded the onset, such as tuberculosis, influenza, enteric fever, diphtheria, and in 7 toxic, as rheumatism and alcohol; in 12 there was a history of overwork. The first symptom to appear in 37 cases was ptosis, in 13 diplopia, in 16 disorders of speech, in 4 difficulty in swallowing, and in 37 paresis of the limbs. The marked tendency to variations in the course of the disease was shown in 98 cases, and in 42 there were striking remissions of months' or even years' duration.

Before discussing the pathology and diagnosis of the disease, I will now describe my cases, in which its typical features were well marked.

Case I.—Miss W., æt. 32, no occupation, complained of debility, and that she always got very tired after doing anything.

*Family History.*—Grandfather died at 60 years of "softening of the brain"; a brother of her mother died in an asylum just over 50; her mother died of cancer of the liver; one brother died in infancy, another died of phthisis; one brother and sister are alive and well. She is the youngest of five children, her father being 49 years of age at her birth. She had influenza in 1898 and 1899, and each time was a long while in regaining strength. The present illness began after an attack of herpes zoster around the right loin.

I saw her first on October 8th, 1903, and the first symptoms began in November, 1902, when she noticed that her voice became nasal, then her tongue felt weak, and she lost control

[1] *Albany M. Ann.*, 1904, xxv. 28.

over her lips. Her chief trouble is in speech: her voice "comes through her nose," she has difficulty in speaking distinctly, and gets exhausted, so that she cannot enunciate her words. She had to give up a Sunday-school class in the spring of 1903, because her speech failed her after ten minutes' talking. About the same time she began to suffer from diplopia occasionally, chiefly for distant, not for near, vision. She has difficulty in swallowing and in masticating her food, especially in the evening, or if tired, or if she goes too long without a meal. She finds especial difficulty in eating in company, as she cannot talk during a meal. She occasionally chokes from food going the wrong way, and sometimes portions of food pass into the back of the nose. She has difficulty in swallowing saliva and in clearing her throat of mucus. She cannot whistle, and finds it difficult to blow out a candle.

Sometimes she has weakness of the hands, especially of the right hand, and cannot stretch an octave on the piano; this does not affect her writing. Sometimes she has weakness of the neck muscles, so that she cannot raise her head from the pillow without the aid of her hands. She has no pain, nor any tingling or numbness. Some time ago she tried to use a gargle, but all the fluid came out of her nose. Yesterday she had to give up reading, because the letters all ran together. All her symptoms show great variation, coming on at times and being absent at others; but they are always worse at the end of the day—for instance, she cannot smile in the evening.

On examination she is thin and poorly nourished. The facies resembles the "myopathic face": the lips are thin, the line of the mouth rather straight, the eyelids droop, giving her a sleepy, languid look. On smiling she shows the characteristic nasal smile. The face is somewhat expressionless. There is slight oscillatory lateral nystagmus. She was rather emotional, and cried a little during application of a weak Faradic current. After opening and shutting the eyelids several times they were neither so fully opened or firmly shut as at first; pupils are equal, and act well to light, accommodation, and consensually. There was diplopia, due to paresis of the left external rectus. The lips were flat and tremulous; she could not keep the lips firmly closed nor blow out the cheeks. The tongue was decidedly wasted and tremulous; she could not put it completely out, nor touch the roof of the mouth with its tip. The palatal reflex was present, but the pharynx and fauces were rather insensitive.

The muscles of the upper and lower extremities appeared normal and not wasted, the grasp of the hands feeble. All the limb reflexes were present, the knee-jerks slightly exaggerated; there was nowhere any loss of sensation.

Optic discs and retinæ normal. Fields of vision normal. No deafness. The speech was decidedly nasal; she spoke as if she had a potato in her mouth. In reading aloud her voice

grew weaker and weaker and enunciation very indistinct; after reading a page breathing became hurried and laboured, and enunciation so indistinct and irregular that it was impossible to understand her. The consonants b, p, t, the soft ch, n, were the first to fail of enunciation in that order, and she lisped the consonant r.

The thoracic and abdominal viscera were normal. A few days later the electrical reactions were taken; the muscles of the lips gave a marked "myasthenic reaction" to Faradism, most on the left side. When in the evening she made an effort to smile, if she succeeded at all, it was only with the right side of the mouth. The tongue reacted fairly well. The "myasthenic reaction" was not obtained in any of the muscles of the limbs. All muscles reacted normally to the constant current, with the possible exception that for the face muscles ACC = KCC. Urine, examined on several occasions, was clear, sp. gr. 1020; no albumin or sugar; 40 oz. passed in 24 hours; urea, 1.5 to 2 per cent.; phosphoric acid ($P_2O_5$), .0495 per cent.; uric acid, .0495 per cent.; chlorides as cl., .3934 per cent.

The patient was treated in a nursing home by rest in bed, full feeding, and strychnine injections, with glycero-phosphates internally. Under these conditions she improved somewhat, but under continuous observation it was seen that her symptoms showed much variation from day to day. It was also noticed that there was not so much difference between her condition in the morning and that in the evening as when she was getting about; but, still, she had always some difficulty in eating her supper. She felt the cold very much, and when cold seemed to lose all power in her hands. After a month she took liq. thyroidea twice a day, and showed almost immediately considerable improvement; the droop of the lids improved, and after taking it a few days the diplopia disappeared for the first time since the beginning of the illness, she became able to masticate better, and had more power in biting her food; she also grew more cheerful. After six weeks' treatment she returned home, continued to rest, to take a full diet and the thyroid extract, and was somewhat better for a time.

She then went down to Weston-super-Mare, where she was under the care of Dr. Rossiter, to whom I am indebted for the following notes. Shortly after her arrival the symptoms became much worse again, especially the difficulty of swallowing, which so much increased that she was not able to take enough food to maintain her nutrition. Saliva ran away from her mouth in considerable quantity, and great discomfort was caused by the inability to swallow food and saliva; an attempt to feed her by an æsophageal catheter had to be abandoned on account of the distress it caused. She was then fed by nutrient enemata, and marked relief of symptoms and general improvement resulted from the use of hypodermic injections of morphia. This lasted

eighteen days, when the enemata ceased to be retained, diarrhœa set in, and she died from exhaustion and cardiac failure. Consciousness was retained to the end, and this was not the least painful feature of the case. Death thus occurred three and a half months after I first saw her, and fourteen months after the appearance of the first slight symptoms.

CASE II.—Mrs. B., æt. 63. This patient had always enjoyed good health, and had never had any bad illness. She had always been in fairly comfortable circumstances, although she had worked hard in looking after her house. She very rarely took alcohol in any form. Her appearance was healthy for her age, she was well nourished, rather florid-looking, with some stigmata on the cheeks; the face was expressionless, and there was the right ptosis described below. Her illness began exactly one month before I saw her. She had been feeling weak and "run down" for a little time, and a month ago she noticed one day that her voice was indistinct and that she had difficulty in swallowing; it was equally difficult for her to swallow liquids or solids. Her medical man passed a stomach tube, thinking that there might be some obstruction, but the tube passed quite easily. There was no dribbling of saliva. She found that her speech varied at times, and after talking for a while it became more and more indistinct; the effort to continue speaking seemed to "hurt her in the chest," and at times to take away her breath. She had a slight cough, and began to find that she could not expectorate the phlegm. At meals mastication seemed to tire the muscles of the jaw, and she sometimes gave up eating before the end of the meal because of the fatigue of the muscles of mastication; she found especial difficulty in chewing hard substances. There were no other symptoms and no affection of the limbs, and she went on for three weeks in this state, when right ptosis came on. This was accompanied by lachrymation; during the past five days she had complained of some failure of sight, of pains in the right shoulder, and on the night before her visit to me of diplopia for some hours.

On examination she spoke indistinctly, slurring her words somewhat, and as she went on talking her speech became more indistinct; sibilants and labials were especially badly pronounced. She could not read (from lack of education), but in repeating consecutive sentences after me her articulation soon became so bad that she could hardly be understood. She had never learned to write. There was partial right ptosis, the lid being about half closed. When asked to repeatedly close the lids, the movement of the right became rapidly weaker and finally failed; the left eyelid continued to act. The oculo-motor nerves were otherwise unaffected. The pupils acted both to accommodation and light, but sluggishly. The optic discs were normal, except perhaps a trifle pale; the retinal vessels appeared healthy. Hearing normal. There was no facial paralysis. She moved the

lips and tongue freely in all directions; she put out the tongue well several times in succession without fatigue. No tremor, nor wasting of the muscles of the tongue or face could be seen. The larynx was healthy, the vocal cords moved well. There was no affection of sensation over the face or mouth, unless possibly slight insensitiveness of the pharynx. The soft palate was weak, but not distinctly paralysed: it was easily fatigued. There was no affection of the limbs, neither as regards motion or sensation. The knee-jerks were normal, the elbow-jerks present, but a little difficult to obtain. Superficial reflexes normal. Nothing could be made out in the right shoulder-joint or in its neighbourhood to account for the pain there: the muscles of the right shoulder and arm showed no weakness. The thoracic and abdominal viscera and the urine presented no abnormal features. As the examination was a long one and she became rather fatigued, and was, moreover, sensitive to the Faradic current, I did not test completely for the "myasthenic reaction," but left it until a subsequent occasion. In view of the gravity of the prognosis, on account of the rapidity of onset of the symptoms, I arranged to see her again in a fortnight's time, in order to ascertain if the symptoms were still increasing, and meanwhile enjoined rest and care in feeding. I heard, however, from her medical man, Mr. C. J. Perrott, that ten days after I saw her she died quite suddenly in an access of dyspnœa. In this case the disease rapidly progressed to a fatal termination after a very short course. Unfortunately in neither case could I get leave to make a *post-mortem* examination.

With regard to the pathology of myasthenia gravis, the most striking symptoms are so evidently of bulbar origin that the failure in several fatal cases to discover any lesion in the bulb by the most modern methods of investigation excited considerable surprise. The earlier *post-mortem* reports gave negative findings, and throw no light on the origin of the disease. Gowers first suggested that the lesion might be seated in the intra-muscular nerve endings.

In 1901 Laquer and Weigert[1] published a case of the disease in which there was a tumour of the thymus gland, containing especially lymphoid cells and epithelioid formations. The muscles, normal to the naked eye, showed numerous collections of similar lymphoid cells, in the perimysium and between the muscle fibres, which were considered to be metastases. This combination of myasthenia gravis with disease of the thymus had been some time previously observed

[1] *Neurol. Centralbl.*, 1901, xx. 594.

by Weigert in a case diagnosed at that time as bulbar paralysis, but which was probably myasthenia gravis, and in one of the cases in Oppenheim's monograph on the disease there was a lymphosarcoma of the thymus.

In 1902 Goldflam[1] found in a typical case of the disease a lymphosarcoma of the right lung, with similar accumulations of lymphoid cells in the interstitial tissue of the muscle, which he also regarded as metastatic to the tumour.

Link, also in 1902,[2] reported a typical case of myasthenia gravis of five and a half months' duration, death being due to dyspnœa, in which the central nervous system was normal; but there were a persistent normal thymus and aggregations of lymphoid cells, similar to those described by Weigert and Goldflam, in several of the muscles affected by the disease during life, and macroscopically of normal appearance, *e.g.* exterior and interior recti (eyes), supinator longus, tibialis anticus and deltoids. The cells were small lymphocytes; the muscle-fibres were atrophied in the neighbourhood of the aggregations. In this case they were certainly not metastatic to a growth, nor was there any evidence of inflammation.

Similar findings have been described by Hödelmoser and Hun. In the latter's case[3] the central and peripheral nervous system was normal; the other organs were normal, except the thymus, which showed infiltration with lymphoid cells of the character of a lymphosarcoma, and the affected muscles contained collections of lymphoid cells.

Link attributed the "myasthenic symptoms" to interference with the flow of lymph in the affected muscles.

Whether the pathological changes in the above cases are to be regarded as the essential ones in myasthenia gravis it is obviously impossible to determine until further evidence is obtained. The negative findings in many fatal cases probably justify the assumption that neither in the bulb nor in the motor nerves are there any morbid changes. One would scarcely think that an enlarged or persistent thymus could be overlooked in any full *post-mortem* examination, and therefore this can

[1] *Neurol. Centralbl.*, 1902, xxi., 97, *et seq.*

[2] *Deutsche Ztschr. f. Nervenh.*, Bd. xxiii. [3] *Loc. cit.*

hardly be a constant feature of the disease. The lymphoid infiltration of the muscles was in each case chronic in kind, and it has been suggested that it may have to be regarded as a secondary change due to altered circulation of the lymph in the muscles produced by the action of a toxin.

It is further interesting to note that some cases are now on record[1] in which symptoms of myasthenia gravis were associated with exophthalmic goitre. A persistent thymus has, I believe, been found in some fatal cases of exophthalmic goitre, and ophthalmoplegia externa, apart from extreme protrusion of the eyeballs, occasionally occurs in this disease.

With regard to diagnosis, it is important to remember that the first symptoms of myasthenia gravis may appear in the eye muscles, and may remain limited to them for a time before other symptoms appear. In some such cases the diagnosis has been made that the patient was suffering from that curious affection known as "migraine ophthalmique."

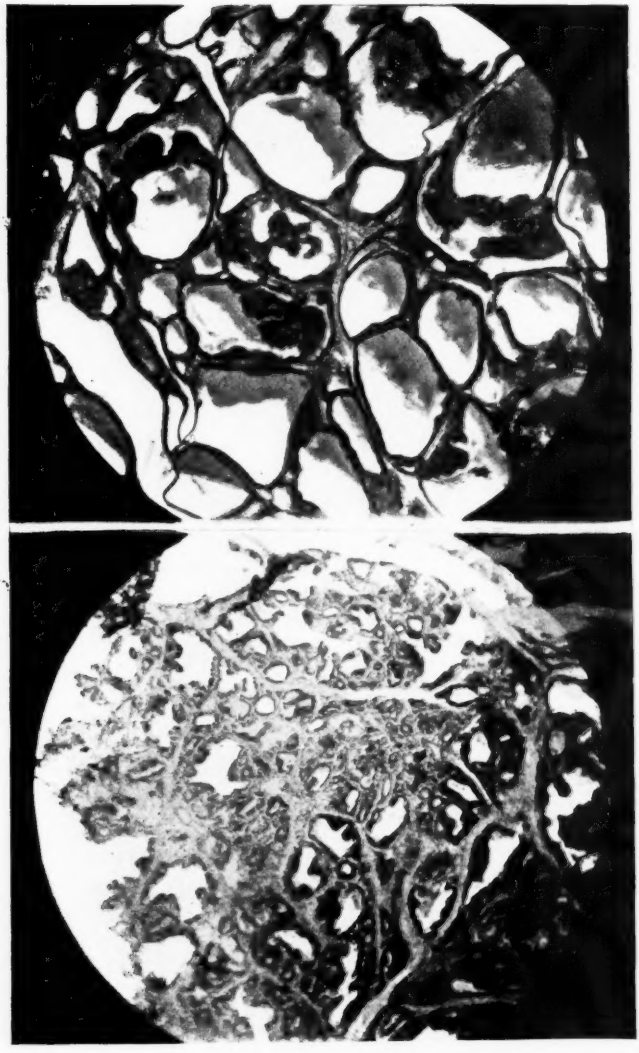
The strange character of many of the symptoms of myasthenia, combined sometimes with an excessive emotional tendency, has led to an erroneous diagnosis of hysteria.

In elderly or old persons with arterio-sclerosis, in whom the supply of blood to the bulbar nuclei is more or less precarious from disease of the vessels, symptoms may appear identical with those of myasthenia gravis, and often showing the same tendency to remissions, but in these cases the symptoms are confined to the bulb, do not affect the eyes, and there is a cause for them. Lastly, the occasional occurrence of bulbar symptoms, as a result of the affection of the bulbar nuclei by the diphtheritic poison, must be borne in mind.

With regard to treatment, the remarkable improvement that occurred in my case on the administration of thyroid extract, although one cannot exclude the possible coincidence of a natural remission of the disease, is worth remembering for future use. The hypodermic injection of strychnine, which has been recommended by Gowers, was also apparently of service.

[1] Meyerstein, *Neurol. Centralbl.*, 1904, xxiii. 1089; Loeser, *Ztschr. f. Augenh.*, 1904, xii. 368.

*Thyroid.—Normal.*



*Thyroid.—Graves's Disease.*

# THE LONG FOX LECTURE:

THE SECOND ANNUAL LECTURE ARRANGED BY THE COMMITTEE OF THE LONG FOX MEMORIAL, DELIVERED IN THE MEDICAL LIBRARY, UNIVERSITY COLLEGE, BRISTOL, ON DECEMBER 7TH, 1905.

NELSON C. DOBSON, F.R.C.S., *in the Chair.*

BY

R. SHINGLETON SMITH, M.D., B.Sc. Lond.,

*Emeritus Professor of Medicine, University College, Bristol; Consulting Physician to the Bristol Royal Infirmary; and Honorary Fellow of King's College, London.*

ON

# THE PATHOLOGY AND TREATMENT OF GRAVES'S DISEASE.

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"All the world 's a stage,
And all the men and women merely players."

"Ring down the curtain, for the play is done;
Let the brief lights die out, and darkness fall,
Yonder to that real life he has his call:
And the loved face beholds the Eternal Sun."

*"Punch" on Sir Henry Irving*, Oct. 18th, 1905.

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EDWARD LONG FOX'S seventy years of life and work having ended on March 28th, 1902, it was very shortly afterwards determined by his numerous friends that steps should be taken to establish an annual lecture on some subject connected with medical science, to be delivered at the University College, Bristol, and to be known as the Long Fox Lecture. Accordingly in 1904 the first of the series was given by Fox's life-long friend, the venerable physician and anthropologist, Dr. John Beddoe, F.R.S., and his subject was, "The Ideal Physician."

Oliver Wendell Holmes, in *Elsie Venner*, made the suggestion that "it is by no means certain that our individual personality is the single inhabitant of these our corporeal frames. . . . . Some at least, who have been dead, may enjoy a kind of

secondary and imperfect, yet self-conscious life, in these bodily tenements which we are in the habit of considering exclusively our own. . . . . This body in which we cross the isthmus between the two oceans is not a private carriage, but an omnibus."

If this be so, and our old friend Fox was able to be more or less present with us on that occasion, how gratified he would have been with the oration which was then delivered, what a pleasure it must have been to see his old colleague's youthful fire warm up to the occasion, whilst he described in eloquent language the ideal physicians of the past, and more particularly the one who had recently departed. This, the inaugural lecture, "of a series instituted to honour and commemorate an able, a laborious, an unselfish and generous physician and philanthropist, a man who loved his profession and his fellow creatures," was on a subject of general interest to a non-professional as well as a medical audience; but it has been thought desirable that on the second occasion the lecturer should select some concrete medical topic, giving an account of the recent advances of science in some department of medicine or surgery in which he may be especially interested, and which will be appropriate to a professional rather than a lay audience.

In endeavouring to carry out this view I must first express a word of profound regret, which will be shared in by all present, that the untimely bereavement of the newly-elected Emeritus Professor of Medicine in this College, Dr. Markham Skerritt, so many years Dean of the Medical Faculty, should have given rise to the (I hope only temporary) relinquishment of the duty which he had undertaken to lecture to you to-day.

In accepting the invitation of the Committee to take up this duty I felt that my audience would not be severely critical, but would be indulgent to any shortcomings of my own which may partially arise from the brief period left to me in which to make preparations for and with which to illustrate the Long Fox Lecture of 1905.

My choice of a subject was not determined without some

hesitation. After reflecting for some days, it occurred to me that some of Long Fox's own work would be an appropriate topic. The Bradshaw Lecture of 1882 was "On the Influence of the Sympathetic on Disease," and this also was the title of the principal volume[1] which Fox published three years later. Much new work has since been added to that which he wrote; but I propose to limit myself to one chapter only of his work, that on the pathology and therapeutics of Graves's disease. A consideration of this interesting malady gives me an opportunity of directing attention to some of the work of Edward Long Fox, also to some investigations of my own carried on a few years ago, and further to many perhaps more interesting and possibly useful developments which centre round the thyroid gland in relation to the circulation and the heart. I shall therefore have to inquire what were the views in vogue when Long Fox wrote on this subject, and how have they been modified since that time.

In Chapter V. of Fox's book we see what was the most advanced view of the disease even so recently as twenty years ago. After quoting numerous cases in which certain coarse lesions in the cervical sympathetic had been found in association with this group of symptoms, amongst them a case of my own in which there was marked shrinking of the cells of the right inferior cervical ganglion with the conversion of the left ganglion into a calcareous nodule, Fox admitted that "it is not possible to credit this system of nerves with the causation of all the symptoms," and he came to the conclusion that "whilst the central origin theory gives the only reasonable explanation of the palpitation and of Graefe's phenomenon, it accounts for the other important symptoms of exophthalmic goitre by the lesion being of a vaso-motor centre, the effects being modified and specially localised by the influence of the cervical sympathetic."

The varying views as to the pathology of the condition were then summed up by Fox as follows:—

"Basedow says the disease is the result of a scrofulous dyscrasia; Aren calls it a neurosis of the sympathetic; Trousseau, a congestive neurosis of the whole ganglionic

system; Charcot believes in a psychical origin; Jaccoud considers it a paralysis of the vaso-motor centres and cervical ganglia, and says that the beating of the heart is due to the less resistance in the dilated vessels, that this dilatation is increased by the heart-beats, that thence there is tumefaction of the thyroid gland, that the cerebro-spinal axis is in its turn excited by the peculiar blood-flow, that the brain shows psychical disturbance, and the cilio-spinal region produces exophthalmos by spasm of the orbital muscles and of the muscles of Müller, and dilatation of the pupil by spasm of the radiating fibres of the iris; Daviller believes it to be an anæmia of the cilio-spinal regions of the cord causing an exaggeration of the reflex power; whilst Eulenberg and Guttmann think it a paralytic condition of the cervical sympathetic."

It does not seem to be possible to dismiss the nervous system altogether as of no importance in the pathological questions which centre round Graves's disease, for even Dr. Greenfield,[2] in 1893, described many changes found in the nervous system, and as regards the sympathetic in the neck he states that "very marked changes have been found. . . . From a comparison of these changes there can be no doubt that the sympathetic ganglia are the seat of a sub-acute inflammatory process. It may be fairly assumed that this leads to changes in function, either by irritation or degeneration. The contrast of similar parts in myxœdema is very striking." As regards the central nervous system, he remarked that "the changes seen resembled in general character those seen in tetanus and hydrophobia, less in degree." Many other observers concur in this view that although the changes in the peripheral ganglia and in the higher centres may not be primal and final, yet they are real, and are indicative of a grave toxæmic condition allied to the changes found in many other toxic states. We cannot even yet look upon the thyroid gland as everything and the whole physiological world around it as nothing, neither can we consider the nerve centres to be everything and everything else as nothing.

The long-accepted discovery first demonstrated by Brown-Séquard, and afterwards confirmed by Filehne and others,

that the cardinal symptoms of Graves's disease may be induced in dogs and in rabbits by wounding and irritating the restiform bodies, have recently derived some support from observations on the higher centres of the nervous system made by Tedeschi,[3] who contends that the disease may be induced in dogs by lesions of the anterior portion of the restiform bodies. He claims that the disease is due to some anatomic or functional lesion of these bodies, probably connected with the vagus or sympathetic or with the vaso-motor centre. This bulbar alteration is followed first by hyperæmia, then hyper-secretion of the thyroid gland, and this in turn produces other symptoms, including the changes of metabolism.

It cannot fail to be noted that so recently as 1885 there is no mention of any serum, vaccine, toxin, or anti-toxin; at that time it had not occurred to anyone that the widely-spread symptoms of this striking disease could be due to an auto-intoxication caused by the thyroid gland, and that the condition would in course of time come to be looked upon as the anti-thesis of myxœdema.

My share in this work has been mainly of a negative character. The case mentioned by Long Fox[4] was that of a girl, twenty years of age, with severe symptoms of seven months' duration, whose persistent tachycardia (pulse being as high as 180 to 208), cough, dyspnœa, and cyanosis culminated in heart failure. After the autopsy the hypertrophic thyroidal changes were described in detail, and also various pathological conditions of the sympathetic nerves and cervical ganglia. For some years after this time I systematically examined the cervical and the semilunar ganglia taken from the bodies of patients dying of many diseases, and came at last to the conclusion that the mode of preparation of the specimens was of more importance than the cause of death of the patient, and that the changes visible in the microscopic character of the cells of the ganglia had little connection with the symptoms present during life. Accordingly it has gradually become the custom to look to some other cause than either the central nervous system or the peripheral sympathetic and vaso-motor nerves for an explanation of the phenomena of Graves's disease.

The President of the Bristol Medico-Chirurgical Society, in his recent address (page 305), spoke of the collection of living pictures, we might call them cerebrographs, gathered by the practitioner in a long course of years. . . . He spoke of them as "a huge reference library that we, and we alone, can utilise for the benefit of our clients. . . . With these pictures stored away in the pigeon-holes of our memory, it is far easier to call upon them for reference than to refer to the laborious and arid notes that lie hidden away at home in a book that is possibly unindexed."

Oliver Wendell Holmes works up the same idea when he makes Dr. Kittredge observe:—

"When a man that's once started right lives among sick-folks for five and thirty years, as I've done, if he has not got a library of five and thirty volumes bound up in his head at the end of that time he'd better stop driving round and sell his horse and sulky. I know the bigger part of the families within a dozen miles' ride. I know the families that have a way of living through everything, and I know the other set that have the trick of dying without any kind of reason for it. I know the years when the fevers are in earnest, and when they are only making believe. I know the folks that think they are dying as soon as they are sick, and the folks that never find out that they are sick until they are dead. You can't tell a horse by driving him once, nor a patient by talking half an hour with him."

Long Fox was such a clinical observer, and he had many volumes of mental pictures with which to instruct. From his training and matured experience we may well say of him in W. E. Henley's words, that he was able—

> "To speak Latin with a right accentuation,
> And give at need (as one who understood)
> Draught, Counsel, Diagnosis, Exhortation."

It might also be said of him, as of Lord Lister—

> "His wise, rare smile is sweet with certainties,
> And seems in all his patients to compel
> Such love and faith as failure cannot quell."

But clinical work and experimental investigation are not always compatible; we can all realise how difficult it is to carry on any experimental investigation in the routine, every-day life of the physician in active work. Kipling has given us a word-picture of this when he wrote something as follows:—

"When through the gates of stress and strain
Comes forth the vast event,
The simple, sheer, sufficing, sane
Result of labour spent.
They that have wrought the end well-thought
Be neither saint nor sage,
But men who merely did the work
For which they drew the wage."

Clinical research with most of us has to be carried on under difficulties of recording and remembering which increase as life advances. Fox often did the well-thought work regardless of the wage, just as the illustrious Jenner of our own county was able in his country work to make an undying name by "proving all things," and I remember that our anthropological lecturer of last year, when doing clinical work, always found time to note the colour of the eyes and hair, often also the diameters of the head.

Since Fox's time the research work of the new era of bacteriology has tended to obscure the clinical work of the physician; but, nevertheless, clinical observation is as necessary as ever, and there are other causes of disease than toxins and other remedies than anti-toxins. Considerations to which I have alluded must be my plea for any incompleteness to-day of my story of the pathology and treatment of Graves's disease. I have not kept an accurate record of all cases, and the mental pictures often fail in completeness and accuracy. I cannot, therefore, give you an analysis of the details of some hundreds of cases, such as that given recently by Dr. George Murray in his Bradshaw Lecture of 1905. My facts must be mainly those gleaned by others, and it is interesting to note how many of these special lectureships have to be quoted in connection with the subject which has attracted so much attention during the last few years.

Now it is necessary to go back a century earlier than the date of Long Fox's book, for it was in 1786 that an English physician, Caleb Hillier Parry, commented on the association of the thyroid gland with the heart, when he wrote as follows:—

"There is one malady which I have in five cases seen coincident with what appeared to be enlargement of the heart, and which, so far as I know, has not been noticed in that connection by medical writers. The malady to which I allude is enlargement of the thyroid gland."

The next distinct recognition of the cardio-thyroid condition was that of Robert J. Graves, who in one of his clinical lectures that on functional disease of the heart, first published in 1835, commented on the connection between palpitation of the heart and enlarged thyroid. He said,[5] and it is of interest to quote the exact words of one who was described by Trousseau as a perfect clinical teacher: "I have lately seen three cases of violent and long-continued palpitations in females, in each of which the same peculiarity presented itself, viz. enlargement of the thyroid gland: the size of this gland, at all times considerably greater than natural, was subject to remarkable variations in every one of those patients. When the palpitations were violent, the gland used notably to swell and become distended, having all the appearance of being increased in size, in consequence of an interstitial and sudden effusion of fluid into its substance. The swelling immediately began to subside as the violence of the paroxysm of palpitation decreased, and during the intervals the size of the gland remained stationary. . . . The sudden manner in which the thyroid, in the above three females, used to increase and again diminish in size, and the connection of this with the state of the heart's action are circumstances which may be considered as indicating that the thyroid is slightly analogous in structure to the tissues properly called erectile. . . . The enlargement of the thyroid, of which I am now speaking, seems to be essentially different from goitre in not attaining a size at all equal to that observed in the latter disease. . . . The well-known connection which exists between the uterine functions of the female and the development of the thyroid observed at puberty renders this affection worthy of

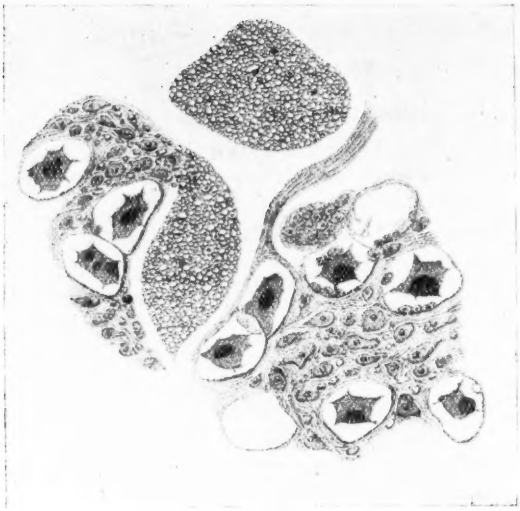
attention, particularly when we find it so closely related by sympathy to those palpitations of the heart which are of so frequent occurrence in hysterical and nervous females."

In later years Gull's description of cretinism in the adult in 1873, followed by Ord's description five years later of the atrophic condition of the thyroid in the disease which he named myxœdema, the demonstration of the results of extirpation of the thyroid, then known as Kocher's cachexia strumipriva, and finally Horsley's investigations, were all leading up to the conclusion stated by Moebius in 1886, that an over-functioning thyroid causes exophthalmic goitre, just as a non-functioning gland produces myxœdema, whilst it was in 1896 that Horsley[6] declared that "exophthalmic goitre in its various stages results from perversion of the function of the thyroid gland."

Time would fail me to take up the details of the clinical picture of the disease, accordingly my remarks must be limited chiefly to the pathological aspects of the subject.

In my own case, to which Fox alludes, there was a coarse lesion of the sympathetic chain in the neck, the left inferior ganglion had disappeared, and was replaced by a nodular mass, adhering to the left side of the trachea, of an oval shape, having a dense fibrous capsule into which the nerve fibres could be traced, and containing internally a hard, calcareous, calculus-like mass forming the nucleus of the nodule; this mass dissolved with dilute acid, but a few crystals of cholesterine were seen amongst the undissolved debris. In addition to this defect further microscopic examination of the other ganglia on both sides showed that the nerve cells had undergone striking and characteristic changes. (Figs. 1 and 2.)

The true nucleated and nucleolated cells were visible as granular masses, for the most part stellate in form, surrounded by a clear space, outside which a distinct nucleated cell capsule could be traced. The cells varied much in size; some of them filled about two-thirds the area of the space enclosed by the capsule, others had retracted to such an extent that they appeared to occupy not one-tenth of their normal space; some still remained in direct contact with the surrounding cell sheath, others had broken away entirely and



× 300.

**Fig. 1.**

*Sup. Cervical Ganglion, left.*

*Drawn by* J. GREIG SMITH.

× 360.

**Fig. 2.**

*Sup. Cervical Ganglion, right.*

*Drawn by* G. MUNRO SMITH.

appeared to be free within the capsule. Changes of this kind were later confirmed by Prof. Greenfield.

The condition of the thyroid in this case was carefully noted. The gland presented a condition of vascular and villous hypertrophy. The circular spaces which exist normally were not enlarged, no cysts were visible, and there was no colloidal degeneration of the epithelial lining. The spaces were occupied by villous growths, the result of vascular and

× 50.

Fig. 3.

*Section of Thyroid—Graves's disease.*

epithelial proliferation of the walls of the loculi. The villous projections were covered, and the locular spaces were lined by a single layer of epithelium of the flattened columnar variety. (Fig. 3.)

These two conditions, the changes in the sympathetic system and those of the thyroid giand, were the principal morbid appearances in this severe and rapidly fatal case. The changes in the thyroid were at that time thought to be

of no importance, and those of the sympathetic were unduly magnified.

A few years later a very remarkable case was reported in detail by Dr. J. Michell Clarke,[7] who also especially commented on the pathological condition of the thyroid gland. He described the vessels in excess and the large amount of epithelial elements in relation to the connective tissue. Besides the acini of the regular round or oval form there were large numbers of irregularly-shaped vesicles. Evidences of rapid proliferation and decay of cells were everywhere present, and in some places the cells reverted to the columnar instead of the glandular spheroidal type. This case was fatal in six weeks from its commencement, death taking place from rapid wasting, vomiting, and diarrhœa. A persistent thymus was found, but although no defects were observed in the nerve centres or sympathetic ganglia, Dr. Clarke endeavoured to show that the cause of the disease must be sought for in the medulla oblongata, the cardio-inhibitory, the diabetic, and the vaso-motor centres being involved. He made no attempt to show that the pathological thyroid gland was of any importance in the etiology of the disease.

It was accordingly reserved for Sir Victor Horsley in his Brown Lectures of 1886 to give the thyroid its full recognition as the most important factor in the causation of cardio-thyroid exophthalmos, and Professor Greenfield in his Bradshaw Lectures of 1893 suggested that the various changes demonstrated (destruction of colloid, cell proliferation, adenomatous, cystic, and finally fibroid degeneration) were truly stages in an alteration, beginning in catarrh and ending in fibrosis or cystic degeneration, comparable to the same range of changes seen in the ovary or the lung.

From this time onwards the nervous system has received correspondingly little attention, and the thyroid gland has been the centre of interest in connection with exophthalmic goitre. It is somewhat remarkable that in spite of the fact that the thyroid was obviously the organ which showed most pathological change, yet this gland was considered to be of so little consequence, either physiologically or pathologically,

that its enlargement was considered to be incidental and of practically no importance.

The general structure of the thyroid gland is well known.

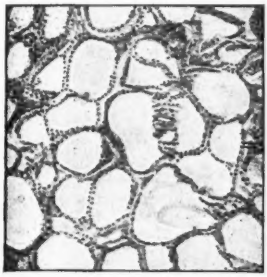


Fig. 4.

*Normal Thyroid of Dog.*

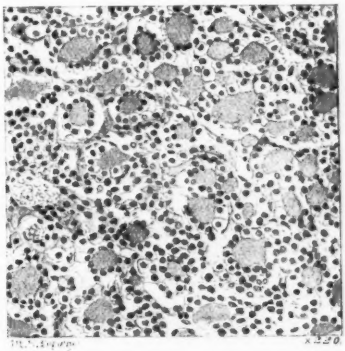


Fig. 5.

*Thyroid of Puppy.*

Its closed vesicles, lined with epithelial cells, which secrete the colloid, are the essential parts. The normal vesicles are commonly rounded in shape or angular from compression, and the secreting cells are cubical. The most striking change in the enlargement of goitre is that the vesicles become branched and stellate, and that the cells become columnar.

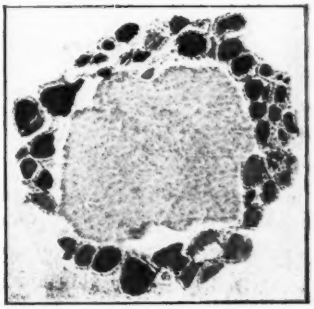


Fig. 6.

*Parathyroid, Monkey.*

The parathyroids are intimately associated with the thyroids. They are small glands, formerly passed by as of no account, but they have derived importance from the fact that their excision generally causes the death of the animal. Their structure is quite different from that of the thyroid; they consist wholly

of cells, and contain no vesicles or colloid. Dr. Welsh, of Edinburgh, finds that there are four of them—one anterior and inferior to, one posterior and superior to each thyroid lobe.

Many experiments on excision of the thyroid were made by Sir Astley Cooper, Sir John Simon, Schiff, and others, but Victor Horsley's work, carried on during the years 1884 to 1886, fully described in his Brown Lectures,[8] on the pathology of thyroid gland, is the foundation of our recent knowledge.

Having first alluded to the hæmatopoietic function, as shown by the excess of the red corpuscles in the efferent vein, and to the well-known fact that the internal secretion of the thyroid (the colloid matter) passed directly from the acini of the gland into the lymphatics, he then directed attention to the work of Schiff, who in 1884 definitely proved that the removal of the gland was followed by striking symptoms preceding a fatal termination. There was as yet no proof that the loss of the gland was the cause of cretinism or myxœdema, but at this time Horsley, by experiments on monkeys, established beyond question the fact that the typical symptoms of myxœdema could be produced by simple removal of the thyroid, and were due to the loss of the gland itself, and not to injury of its nerves. He considered it to be difficult to understand how the sympathetic theory could have been maintained, and believed that its final destruction had been given by the discovery of Dr. George Murray that the phenomena of myxœdema can be dissipated by the internal administration of the gland itself. He further described and commented on the compensating hypertrophy of one lobe of the gland when the other had been removed, and he described the changes in the epithelium of the enlarged gland.

In exophthalmic goitre the acini become more irregular and more resemble a racemose gland, the colloid material tends to disappear, and is represented by a granular debris. This is coupled with a general enlargement of the whole gland, just as in the artificial hypertrophic compensation. . . . Further, as regards the changes in the epithelium, a great deal has been said by many observers as to the vacuolation of the epithelium and the appearances of vacuolation in the colloidal substance.

To summarise our present position and knowledge of the

whole question, said Mr. Horsley in 1896, "It is, I think, now generally agreed that, whereas myxœdema and cretinism result from simple loss of the function of the thyroid gland, exophthalmic goitre in its various degrees results from a perversion of that function."[9]

Walter Edmunds,[10] working at the Brown Institution at about the same time, also demonstrated that the removal of a portion of the thyroid from an animal was followed by a compensating hypertrophy in the remaining parts of the gland. In this hypertrophied gland he found that the vesicles had enlarged, becoming long and branched, that the lining membrane became convoluted, the secreting cells columnar, and the colloid contents of the alveoli were less viscid and more watery. These changes,

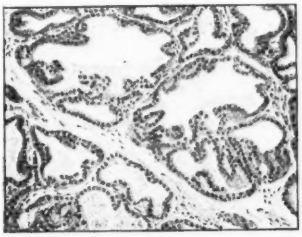


Fig. 7.

*Compensatory Hypertrophy of Thyroid after partial Thyroidectomy.*

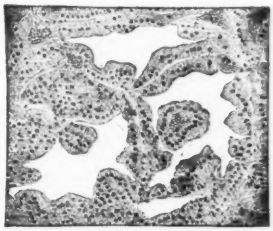


Fig. 8.

*Thyroid.—Graves's disease.*

artificially produced, he found to be identical with those found in the enlarged thyroid of Graves's disease, and accordingly he inferred that this hypertrophy of the gland is of the nature of a compensating hypertrophy, that it is not primarily of central nerve origin, nor was it in any way affected by division of the sympathetic. He believed the over-growth was due to an unsuccessful attempt at compensation, and therefore it might be inferred that the thyroid changes are secondary to something else, and could not be looked upon as the starting-point of the disease in exophthalmic goitre.

Dr. G. R. Murray,[11] working on similar lines, also demon-

strated that the compensating hypertrophy occurring in Graves's disease was not simply due to over-vascularity and hyperplasia of the original glandular tissue, but that considerable changes in structure might be observed. He also found that the alveoli became irregular in outline, with a folding-in of the lining membrane giving projections into the lumen of the alveoli, that the cells increased in size and number, and the form changed from the short cubical to the long columnar epithelium. The colloid contents were diminished and watery in consistence. He summed up his views by stating that "the glandular tissue was working at high pressure, and was just able to supply the necessary amount of secretion without storing any in reserve in the alveoli, as is usual in the normal gland." He found the gland lesions to be more constant than any in the nervous system, and the same enlargement of the gland had been present in almost every one of the cases he had observed. He had found that treatment of the simple parenchymatous goitre by thyroid extract leads to a notable diminution in the size of the gland, but in his opinion thyroid extract should never be given in exophthalmic goitre, as it is only adding fuel to the fire.

An investigation by Hutchison[12] on the active constituent of the thyroid gland led to the conclusion that the total therapeutic activity of the gland is to be attributed to the colloid matter. "In giving the colloid one is giving the active part of the glands, nothing more and nothing less." His preparation is called thyro-colloid.

Then followed numerous observations on the removal of the parathyroid glands from animals; but as regards the human subject little is yet known, and it seems doubtful whether these glands take any part in the phenomena of Graves's disease. The usual result of the removal of the parathyroid glands has been death by tetany, but it has been discovered that this tetany may be counteracted by the injection of parathyroid emulsion in dethyroidised animals. The result of destruction of the thyroids being myxœdema, and that of the parathyroids alone being an acute fatal nerve disease resembling tetany, it follows that the effects of these two sets of glands must if possible be differentiated. The great importance of the

parathyroid glands in connection with the experiments on thyroid extirpation was shown by the fact that the preservation of one parathyroid will suffice to preserve the life of a dog from which both thyroids have been removed, and Edmunds found that a compensating hypertrophy of the retained parathyroid occurs.[13] It has been pointed out by MacCallum and Davidson[14] that a comparison of the symptoms following extirpation of the parathyroids shows that although there is a close resemblance to exophthalmic goitre the tachycardia is not present, although exophthalmia may be, and the violent convulsive movements of the hypo-parathyroidal condition are the representatives of the nervous tremor of Graves. It has been thought that the parathyroid feeding may be effective clinically where the thyroid medication has failed; accordingly Gley[15] treated exophthalmic goitre with the parathyroids of the ox, and he reports that Moussu had in one case obtained marked improvement therefrom. In another case twelve raw parathyroids of the ox had been given daily, but with no appreciable effect. More recently Walsh,[16] after some experience of this method, came to the conclusion that there are no grounds for the idea that insufficiency of the parathyroids plays any important part in Graves's disease. A general summary of the parathyroid glands in Graves's disease has just now been given by Lawrence Humphry,[17] who in several fatal cases of exophthalmic goitre found the parathyroid glands to be invaded with extensive infiltration of fat, but in none of them did they show any signs of compensating hypertrophy or tendency to the formation of colloid.

The whole question of the pathology of Graves's disease was recently summed up very tersely by Hector Mackenzie.[18] After commenting on the emaciation which is commonly present in any fatal case, and which is presumably due to the increased metabolism, which is well known to be one of the most striking symptoms of the disease, he points out that the most obvious feature is the thyroid swelling. The gland enlarges, generally in a uniform manner affecting all parts equally, the veins on the surface are dilated, and the nutrient arteries are dilated and tortuous. The substance is soft in consistence excepting in long-standing cases, and on section it is easy to see a marked hypertrophy of

the blood vessels. Microscopic examination shows the various changes which have been already described. He further goes on to point out the striking similarity which exists between the microscopic appearances of the gland tissue in Graves's disease and in the case of an animal from which the greater part of the gland has been experimentally removed. He then notes the compensating hypertrophy which occurs in the small portions of the gland remaining after partial extirpation, and that a section of the gland from a case of Graves's disease is practically indistinguishable from one from the gland of an animal with this experimental compensating hypertrophy.

Fig. 9.

*Secreting Cells, Normal Thyroid. Dog.*

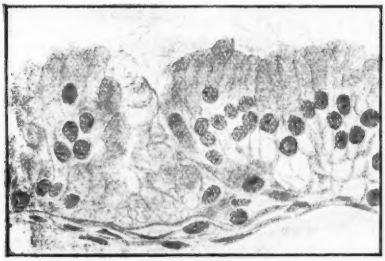


Fig. 10.

*Changes in Secreting Cells after partial Thyroidectomy.*

Fig. 11.

*Secreting Cells, Thyroid.—Graves's disease.*

It is therefore shown that in Graves's disease the thyroid, for some reason at present obscure, takes on increased functional activity and undergoes hypertrophy. Further, it seems probable that the parathyroids play some part; atrophy of these has been observed in some cases, but it seems as yet doubtful if this is an essential feature of the disease. The persistence of the thymus gland has been frequently observed, but its

microscopic appearance does not differ from that of the normal gland. He concludes his summary as follows: "What it is that starts the hypertrophy of the thyroid and what part the persistent thymus plays we do not know. In some cases the disease seems to be set up by shock or by emotion. . . . It is possible that the disease in some cases may be due to microbic infection."

That the most conspicuous symptoms of Graves's disease are the result of over-activity of the thyroid is shown by the effects which have been obtained by the administration of large doses of thyroid gland in human beings and in the lower animals. Mr. Walter Edmunds has shown that if dogs or monkeys are fed with large doses of thyroid gland there results accelerated action of the heart, increased metabolism, loss of weight, increased action of the skin, and sometimes marked exophthalmos. Indeed, you find that practically all the symptoms of Graves's disease, including exophthalmos, can be produced in animals by the administration of large doses of thyroid gland.

Sajous[29] endeavours to carry the etiology of the disease a stage further back: he admits the effect of thyroid extractives on metabolism, that an increase of physiological activities, such as are seen in exophthalmic goitre in the acute forms, is likely to be due to over-action of the thyroid glands; but he endeavours to show that the thyroids act only as an auxiliary to the adrenal system, that they supply a secretion which stimulates the adrenals, and thereby augments the activity of oxidation processes. He transfers to the adrenals a long list of symptoms commonly thought to be associated with abnormal activity of the thyroid, so that he considers Graves's disease to be the result of excessive supra-renal activity, whilst myxœdema is due to the opposite condition, adrenal insufficiency. Myxœdema has been known to follow exophthalmic goitre,[30] and this he would account for on the principle that excessive thyroidisation has so stimulated the adrenals that this culminates in over-stimulation and exhaustion, giving the result, adrenal insufficiency. Dr. Willcox, of Warminster, tells me that he has under observation, and has for years treated successfully a case of myxœdema, which commenced with

exophthalmic goitre. In criticism of these views we must not, however, forget that there are no pathological proofs that the supra-renal capsules are in any way responsible for the phenomena either of myxœdema or of exophthalmic goitre.

The brilliant discovery of Murray that myxœdema could be held in abeyance indefinitely by the administration of thyroid food—the signal triumph over athyrea—has led to great expectations from organo-therapy, and the various therapeutic tests which have now continued for some years are in themselves an important part of the pathological investigation of Graves's disease. Osler remarks[21]: "The use of the extracts of certain organs (or of the organs themselves) in disease is as old as the days of the Romans; but an extraordinary impetus has been given to the subject by the discovery of the curative powers of the extract of the thyroid gland in the diseases known as cretinism and myxœdema." That this fact needs still to be recalled from time to time is well shown by the following story given by Osler (p. 221):—

"It is astonishing with how little reading a doctor can practise medicine, but it is not astonishing how badly he may do it. Not three months ago a physician brought to me his little girl, aged 12. The diagnosis of infantile myxœdema required only a half glance. In placid contentment he had been practising twenty years in 'Sleepy Hollow,' and not even when his own flesh and blood was touched did he rouse from an apathy deep as Rip Van Winkle's sleep. In reply to questions—No, he had never seen anything in the journals about the thyroid gland; he had seen no pictures of cretinism or myxœdema; in fact, his mind was a blank on the whole subject. He had not been a reader, he said, but he was a practical man with very little time."

It is commonly admitted that in simple common goitre thyroid medication is often successful in curing the malady. All forms of goitre begin with abnormal development of the thyroid parenchyma, and no definite line of demarcation exists between simple thyroid swelling and Graves's disease. The question, therefore, naturally arises whether it may be possible that the transition may be promoted by thyroid medication,

and hence the necessity for caution in giving thyroid preparations to persons with simple thyroid enlargement without as yet any indications of exophthalmos or tachycardia. A study of the pharmacology of the thyroid gland by Hutchison[22] shows that—

(*a*) It increases metabolism, causing great access of urea, copious loss of fluid and loss of weight, with consumption of the body fat.

(*b*) It causes increased rapidity of heart, with irregularity and palpitation.

(*c*) Its active constituent is excreted by the kidneys, iodine being found in the urine after large doses of thyroid.

(*d*) The dose must be limited, or thyroidism results, giving headache, pains in limbs, nausea, diarrhœa, and palpitation.

It is obvious that these effects of the action of the thyroid drug are all well-known factors of the phenomena of Graves's disease. The following results were found in the human subject as produced by the administration of thyroid gland. These observations made by Easterbrook[23] are quoted by Edmunds: (1) loss of weight, about seven pounds a week; (2) some pyrexia; (3) some increase of perspiration; (4) diminution of the red corpuscles; (5) headache; (6) tremors; (7) an increase of pulse rate by about forty a minute; (8) an increase of the rate of respiration by about six a minute; (9) a diminution of appetite; (10) an increase of menstruation; and (11) an increased amount of urine, often albumin, but never sugar. He concludes that thyroid substance is a profound katabolic stimulant.

The present state of matters as regards thyroid therapy has been reviewed very recently by Batty Shaw,[24] who, commenting on the success of the treatment of athyrea by means of substitution products of the thyroid, remarks that nevertheless as yet no important advance has been made in the treatment of the hyperthyrea or the dysthyrea of Graves's disease. He concurs in the general view that the flooding the system with thyroidal secretion produces symptoms which are a very good imitation of the phenomena of Graves, such

as tremor, nervous excitability, tachycardia, and increased metabolic activity, and that in Graves's disease the administration of thyroid may relieve the gland of any necessity for extra function. If this continues some degree of involution occurs, or the treatment may actually cause (after initial stimulation) a retrogression and atrophy. As regards the parathyroid glands, he points out that some of the nervous phenomena of Graves's disease are allied to those which result from destruction of the parathyroids. He suggests the possible utility of hypothyreic serum from thyroidectomised animals and of hyperthyreic serum from injection of thyroid extracts into animals. Collins reports one case in which Armour's parathyroid preparation was given with apparent success.

Here I have to thank Dr. Watson Williams for the opportunity of showing photographs of Mrs. B., one of the earliest cases of myxœdema treated with thyroid gland, and who has now continued treatment for over twelve years. At this time it was necessary to go to the slaughter-house and personally remove the glands when the sheep were killed, as there was no other way of obtaining them. A good result very rapidly ensued from giving two lobes minced up in a sandwich daily; but this quantity was soon found to be excessive, as it sent up the pulse to 154.

I also am able to show two photographs lent me by Mr. Edmunds of a well-known case—the one taken before the advent of the disease, and the other when the disease was well developed and before treatment commenced. Allbutt's *System*[25] gives a third portrait of this patient after treatment had restored his condition to something like its pristine one.

But now to revert again to the questions relating to the hyperthyrea of Graves's disease. It is commonly admitted that thyroidectomy produces much improvement if the patient survives the risk. The risk being, however, too great, it would be desirable that a thyrolytic serum which will serve the purpose of a partial thyroidectomy by producing a solvent action on the secreting cells, and so lead to their destruction without operative interference on the gland, should be dis

covered. Many attempts to produce such a serum have been made, but so far all experimental efforts to develop such an efficient thyrolytic serum for therapeutic purposes have ended in more or less disappointment.

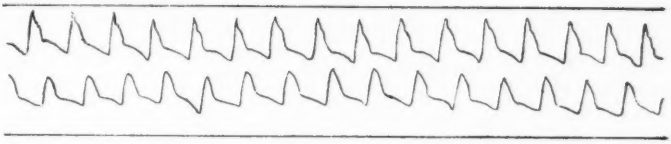
Lanz,[26] endeavouring to produce such a serum which will neutralise a poison formed by the cells of the patient himself, obtained good results in six cases by using the fresh milk of a thyroidless goat, the whole of the milk of one goat being consumed by the patient every twenty-four hours. When the fresh milk cannot be obtained the dried milk, sold under the name of Rodagen, may be employed instead. A remarkable case in which this was employed was reported by Dr. Murray in his Bradshaw Lecture last month.[27] Steady improvement was being made under the use of one drachm of the Rodagen thrice daily. After three weeks' treatment she became collapsed, temperature fell to 95.2°, and the heart-beat fell from 140 to 32 per minute, and continued slow for many weeks. No untoward symptom occurred later when the patient was taking smaller doses, and the patient left the hospital much improved. Dr. Murray considers that this remedy is worthy of more extended trial, but should be used with caution in doses not exceeding half a drachm. Moebius similarly employed serum prepared from the blood taken from sheep several weeks after thyroidectomy. This serum, prepared by Merck, is now to be obtained under the name of antithyroidin.[28] The serum from dethyroidised dogs and rams has also given striking results. A similar preparation, Thyroidectin, is prepared by Messrs. Parke, Davis and Co. This is a reddish-brown powder prepared from the blood of thyroidectomised animals, and sold in capsules containing five grains. One or two of these thrice daily have given encouraging results in the hands of various observers. Dr. Murray, in his recent lecture, gives results of his own attempts to prepare an anti-thyroid serum, first of all from rabbits and more recently from a goat. In neither case was he able to attribute any special effect to the use of the serum.[29]

From all these and many other endeavours it is clear that the rôle of the thyroid has of late years been amply recognised,

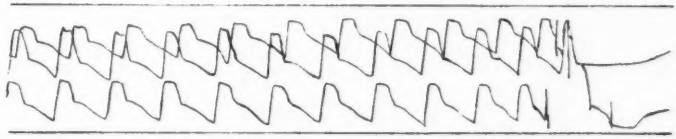
and the various observations made gave rise to a rapid growth of opinion all over Europe that the symptom-complex is due to the production (or non-elimination) in the thyroid itself of some toxin which acts on the whole nervous system, even to the periphery, though its action mainly falls on the vaso-motor centres of the medulla and some neighbouring centres. Various papers by Arthur Maude[30] emphasised the idea that "we must regard the neurosis as a nerve poisoning for the present: the brunt undoubtedly falls on the medulla, but it is felt from the cortex to the periphery. . . . To my mind, the universal goitre, the connection with myxœdema, the results of operations on the thyroid, point to that gland as the fountain-head of evil." It is interesting to note that Dr. Michell Clarke,[31] writing on hysterical tremor, describes "a fine rapid tremor, like that present in alcoholism or in Graves's disease." Is it not possible that many cases of hysteria are due to causes similar to those which prevail in exophthalmic goitre? Bearing these facts in mind, I some years ago treated a series of cases of chorea with thyroid extract, and with very good results: the course of the disease appeared to be materially shortened.

Incomplete or rudimentary forms of the disease had been described by Trousseau, who proposed a special designation for them, which was adopted by Marie in his *Contributions a l'étude et au diagnostic des formes frustes de la Maladie de Basedow*, 1883. Trousseau had also first noticed the characteristic tremor which was more fully described by Marie, who showed it to be a constant accompanying phenomenon in the symtomatology of exophthalmic goitre. A study of these ill-developed forms of the disease, when the toxic condition probably is to be found in its milder and earlier stages, seems likely to be of much interest in the quest for an anti-toxin, and may be of great importance in relation to various functional conditions of the nervous system allied to hysteria and of the neurosal disturbances of the heart. Such a case is that of Mrs. C., now æt. 60, who has had thyroid swelling for twenty-five years or more. In 1889 twelve injections of ergotine into the gland produced some amelioration. In 1891 six injections were given, with much temporary discomfort and no permanent advantage; various other treatments

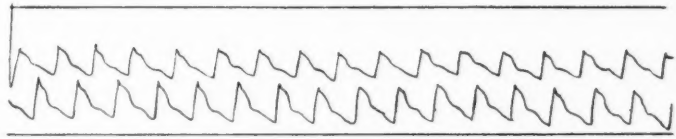
*January 12th, 1888.*



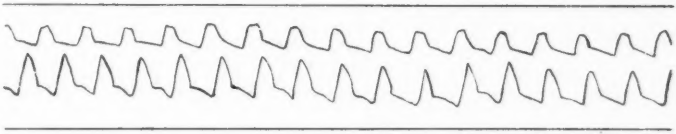
*February 4th, 1888. After Sparteine.*



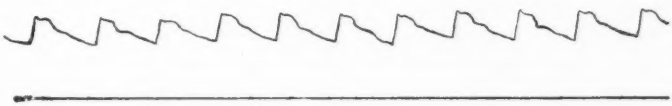
*March 2nd, 1888. Also after Sparteine.*



*April, 1888.*



*October 17th, 1905. After suprarenal tabloids, gr. v., t.d.s.*



Mrs. C., æt. 60.

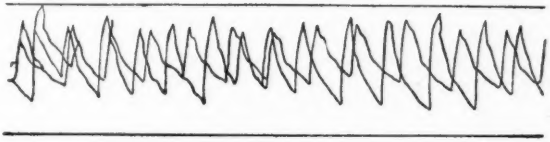
*Tachycardia, with very large Goitre.*

had been carried on for four years previously, beginning in 1887, for nerve and heart symptoms. In March, 1901, a friend advised Haig's American goitre cure (? thyroid), which was tried with some little relief to the throat and without any increased palpitation. In August, 1901, thyroid tablets were tried, also on the advice of a friend. Three grains twice daily after one week "reduced me, but there was no difference in the size of the gland, and it excited the heart, but relieved some of the nerve symptoms. I could not go beyond six grains daily, but could continue this for a fortnight." The patient has persistently declined all proposals to operate on the gland, and now, in 1905, the heart condition gives little trouble, but the gland is persistently causing some lateral pressure on the trachea.

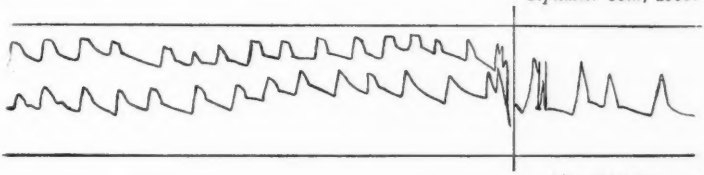
Another case is that of Mrs. J., æt. 72, chronic goitre, with tachycardia of three years' duration. The heart symptoms are usually amenable to heart treatment, but the nervous tremor, malnutrition, pulsation of enlarged thyroid, venous distension in the neck, and a rapid irregular heart have continued since April, 1903. At times there has been very intractable spasmodic cough, a pseudo-bronchitis with much throat secretion, vomiting, and exhaustion threatening syncope, but sooner or later relief comes, and things go on as before. In this case the right pupil is larger than the left, and it has been observed that at times one side of the face was red and the other side white, with a sharp line of demarcation down the middle. These symptoms are at least suggestive of some grave lesion, involving the cervical portion of the sympathetic nerves, and it seems not improbable that both the heart symptoms and the goitre are of a secondary character. In both these cases suprarenal extract in five-grain tabloids has been given from time to time with some benefit. Its effect (as shown in the pulse tracing) has been to indicate a marked increase of pulse tension, although there has been little influence on the pulse rate.

Dr. Harry Campbell[32] has recently commented on the fact that Graves's disease is very apt to be overlooked, that it may remain immature for years, and that exacerbations may follow

*September 26th, 1905.* *Pulse 124. Tension low.*

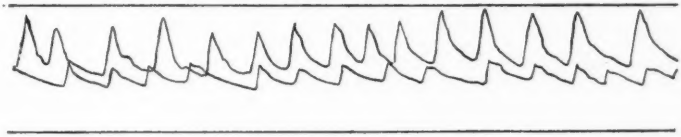


*September 30th, 1905.*

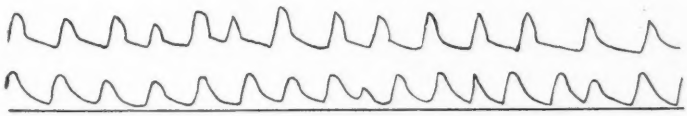


*After Digitalis.*

*October 10th, 1905.* *Usual condition.*



*October 16th, 1905.* *After suprarenal tabloids*



Mrs. J., æt. 72.

*Tachycardia, with Goitre.*

fright, the climacteric, or any acute illness. We see cases of young women with tachycardia and tremor, without marked exophthalmic or pronounced goitre, although emaciation, perspiration, or pigmentation may be present. Agitation and extreme nervousness are the most striking clinical features of the disease, the entire nervous system is in a state of exaggerated irritability. The pathology centres round the thyroid gland; the passage into the blood in excessive quantity of the normal colloidal contents of the alveoli, or of a perverted thyroid secretion, leads to a rapid katabolism with increased output of carbonic acid, urea, and other excreta. Thus are explained the palpitation, emaciation, pigmentation, sweating, and the general nervousness—a condition of thyroidism, and Campbell remarks that the phenomena of the climacteric may be due to a similar cause. My patient, Mrs. C., states her experience and conviction as follows: "The complaint would not have existed but for a life of repeated and excessive nerve strain. Being caused, it would have been mended and made endurable by easier life, less care, less hard work, anxiety, and small means. Instead of other treatment, rest, bed, feeding would, I believe, have pulled me up."

The suprarenal bodies and the thymus have been also tested; but although in some isolated cases they have each been of service, it does not appear that any specific anti-toxic value can be attributed to either. As regards the preparations, it is generally admitted that suprarenal feeding, even in Addison's disease, has by no means given results comparable in brilliance with those obtained by thyroid feeding in myxœdema. An abstract of ninety-seven cases reported by Dr. E. W. Adams[33] gives results mostly disappointing. It does not, however, seem right that this drug should be summarily dismissed as useless in Graves's disease. The uses of adrenalin, suprarenin, epinephrin, paranephrin, hemisine, or by whatever name it may be called, are of such value as a local hæmostatic (and even when locally used these drugs are known to produce a general rise of blood pressure) that its stimulating effect on the heart and the increased tone of the arterial system generally should be of use in many cases

of Graves's disease with heart weakness. The most familiar of these preparations is perhaps the hemisine (Burroughs, Wellcome and Co.). This the active principle of the medulla of the suprarenal capsules is in the form of a dry soluble powder. This substance must be continually passing into the blood stream, and is intimately associated with the functional integrity of the sympathetic system. Its action on the heart is to cause great acceleration of the heart beat and powerful constriction of the smaller arteries; the rise of systemic blood pressure may be so great that a secondary slowing of the heart beat is produced through the vagi; other effects are widening of the pupils and protrusion of the eyeballs. It seems clear, therefore, that this drug, like the thyroid extract itself, must only be used in Graves's disease with great caution.

As regards the action of the thymus in Graves's disease, there is a practical unanimity in the absence of any specific effect; it has been often tried and has generally been found to be practically useless. My own experience is quite in accord with this result; it has often been given, and in steadily increasing doses, and has not produced any appreciable benefit. Collins[34] states that the one patient to whom it was given showed no improvement whilst taking it. Mackenzie states that he treated twenty cases with thymus, and compared them with twenty similar cases without thymus, but could see no decided difference in the results obtained.

A case recorded by Dr. Watson Williams[35] is of especial interest, and is one of the earliest in which thymus gland was used. Symptoms were singularly unilateral, affecting the right lobe of the gland, and the right pupil was larger than the left. The condition was much aggravated by thyroid tablets; these were therefore discontinued and thymus tablets given six daily. The temperature and pulse rate both rose, and fell when the tabloids were stopped. Fresh thymus was then given, one ounce daily; in five days the pulse rose from 98 to 136, and the temperature to 99.2°. The dose being reduced to half an ounce, the pulse fell to about 110 and temperature rose in the evening. After one week the thymus was stopped. There was marked aggravation of all the symptoms, which subsided when

the drug was left off, and were repeated when it was again resumed. The thymus in this case behaved in every respect as if it were thyroid.

Another case worthy of mention is the following:—

A girl, æt. 17, who developed symptoms of a severe form of Graves's disease after a fright. She had proptosis, a very large pulsating goitre, and tachycardia. She was thin, very emotional and irritable. After other methods of treatment had given no result, thymus gland, fresh from the butcher, was obtained daily, and she took six small pieces of bread spread with the finely-minced gland well sprinkled with salt. The result was decided, for she began to improve at once, and the improvement was maintained. This treatment was continued for about three months, when all the physical signs had receded, and she was able to resume her former duties. It is now ten years since the first illness; twice during that period she has developed some tachycardia with a little proptosis, but on each occasion a few weeks of treatment with thymus gland tabloids has put everything right, and she is now quite well.

The general conclusion drawn by Dr. Murray on the serum treatment is as follows:—

"We must, on the whole, conclude that at the present time in the great majority of cases the best results are obtained by general hygienic treatment combined with the use of electricity and certain drugs, and that as yet no serum or other animal product can be considered to give better results than those older methods of treatment."[36] As regards these general methods, they are considered in detail by Dr. Murray in the same lecture, and also recently by Dr. Hector Mackenzie in a lecture on the same subject.[37] He concurs with other observers that thyroid treatment generally makes the patient worse, that thymus produced in twenty cases no decided result, and that the thyroid serum of Moebius gave no good effects, and that as yet we have only to trust to the older methods of treatment on the lines indicated; with those, however, "with care and perseverance there is a fair chance of our efforts being rewarded by the recovery of the patient."

Dr. Kenneth Wills tells me that he has of late obtained

some fairly good results from X ray and other electrical treatment of this disease.

One question remains on which it is essential that something further must be said. It has frequently been stated that operative treatment gives good evidence in favour of the thyroid origin of the disease; doubtless this is so, but at what cost is this knowledge gained? The mortality is well known to be exceedingly high, and in spite of the apparently favourable reports of Kocher and others, it is generally admitted that the results are, in Osler's words, "notoriously uncertain." In these days only partial removal would ever be advocated, and this usually as advised by Kocher with the help of a local anæsthetic, never with ether or chloroform, and bearing in mind that thyroidectomy is much more fatal to the young than to adults. Murray remarks that the risks of surgical treatment are so great that he does not consider partial thyroidectomy is advisable; in two cases in which he had seen this operation performed both patients died within an hour or two. Mackenzie also states that two of his patients had died as a direct result of the operation. I can recall other cases in which death took place within a few hours.

One of these was that from which some of my photographs were prepared,[38] that of a woman, æt. 34, admitted on June 17th, 1895, with the ordinary symptoms of Graves's disease, of medium intensity. After six weeks with little indication of improvement it was decided to operate. A surgical colleague advised this, and at the end of July removed the right lateral lobe. The result was disastrous, though the operation was quickly done, and the bleeding was slight; yet in about thirty hours the patient died with pyrexia, rapid pulse, and delirium, culminating in heart failure.

In a case recorded by Dr. Arthur J. Hall[39] two operations were successfully performed, but with only partial and very temporary improvement, although the whole of the right lobe and the isthmus had been removed. I am indebted to Dr. Hall for the further report of the case, from which it appears that a third operation—the removal of the rest of the thyroid—was speedily followed by tetany, bronchitis, and death.

Collins[40] states that his experience with surgical treatment has been most unfortunate—of three cases, all died immediately.

Another of my Infirmary cases gave us a very satisfactory result. Æt. 25, admitted March 12th, 1895, with thyroid swelling of nine months' duration, followed by proptosis, wasting, amenorrhœa, cardiac symptoms, and wasting. Both lobes of the thyroid were equally enlarged, the isthmus also. Bruits and tremor of the usual character existed, with a pulse of 120. On March 20th Mr. Harsant removed the right lobe and a portion of the isthmus. No bad symptoms followed, and on March 20th the pulse had come down to 90, and there was less tremor. April 27th: She had gained 12 lbs. in weight, general health had much improved, and she was discharged fairly well.

Further, it has been found that thyroidectomy, even when successfully and safely performed, has not always been successful in curing the disease; in some cases only partial improvement has occurred, too much gland having been left behind. Various other operations have been from time to time performed, such as division of the isthmus and ligature of the thyroid arteries; these may be less dangerous, but are also less likely to be of any lasting service.

Dreyfus[41] gives much more favourable results from operative treatment. Complete recovery followed operation in 75.7 per cent., great improvement in 10 per cent., slight in 2.4, and death in 7.9 per cent. When it is remembered that only severe cases were operated on the author believes that these results are better than can be reported from any other method of treatment.

Kocher's well-known results are also in favour of operative interference.

Accordingly, on the theory that the sympathetic system may be the *fons et origo mali*, it has been thought that operations with a view to the excision of more or less of the cervical ganglia and their connecting nerves may be more successful than have been those on the thyroid. Edmunds[42] gives an analysis by Boisson of twenty-seven cases: in seven of these no improvement followed; the last case of all was one in which the patient lost her eyesight, and finally died from severe Graves's disease ten weeks after the sympathetic operation

on one side, and seven weeks after its removal on the other side, thus showing that the sympathetic was not the cause of her symptoms. Edmunds also quotes Berry, who at the Royal Medical and Chirurgical Society in the previous year expressed the opinion that the sympathetic has nothing whatever to do with Graves's disease, and that the sympathetic operation should never be performed. Farquhar Curtis, of New York,[43] reports that out of seven cases operated on by sympathectomy two died from acute thyroidism, one relapsed nine months after operation, and died from the original disease with acute endocarditis, and only one was completely cured five years after operation. He preferred the operation of thyroidectomy, as it could be easier done under a local anæsthetic, and the mortality was not so high.

The almost universal acceptance of the thyroid as the primal cause of the group of symptoms first described by Graves makes it all the more disappointing that, although on this theory some anti-toxin is not unlikely to be found which will neutralise the action of the enlarged and overactive gland, and in spite of a vast deal of patient investigation, we are driven to the conclusion that the problem has not yet been solved. It may be that although pathologists may be on the right track, yet some complicating agency must be thwarting their endeavours, and these opposing influences are not unlikely to be found in the nerve centres.

One thing is clear, that general hygienic treatment and that directed to the condition of nerves and heart still remains paramount. It may be that we are only dealing with symptoms, but these can be dealt with more or less efficiently on the lines which have long existed. The neuro-cardiac theory is then the foundation on which our treatment must still be based, and although we have as yet no specific rigid line to follow, yet the recognition of the phenomena of Graves's disease, in any given case of cardiac and nerve symptoms, gives us encouragement to expect that the symptoms will be more amenable to treatment than are other kinds of serious disturbances of the heart and nerves. So far as these structures are concerned we may consider the phenomena of the milder forms of exophthalmic

goitre to be in their essence functional, and as such curable; their continued study is likely to give us material assistance and encouragement in dealing with other toxic conditions of the nervous centres and cardiac nerves.

And here, gentlemen, I conclude my imperfect sketch of the present views of this interesting malady: the toxic questions are new since Fox wrote on the subject, and the anti-toxic questions are by no means yet worked out. There are many problems still awaiting solution by those who have time and ability for the accomplishment. Fox still speaks to us, and his message is, "Whatsoever thy hand findeth to do, do it with thy might; for there is no work, nor device, nor knowledge, nor wisdom, in the grave whither thou goest."

N.B.—I have to express my thanks to Mr. Walter Edmunds for many of the illustrations in the text, also to him and to Sir Victor Horsley, Dr. George Murray, and Dr. Edgeworth for lantern slides with which the lecture was illustrated. My thanks are also due to Mr. James Taylor and to Dr. Imlay for much photographic assistance.

## BIBLIOGRAPHY

1. **Edward Long Fox**—The Influence of the Sympathetic on Disease. London, 1885.
2. **Greenfield**—*Brit. M. J.*, 1893, ii. 1266.
3. **Tedeschi**—Gould's *Year Book*, 1904, p. 405.
4. **Shingleton Smith**—*M. Times and Gaz.*, 1878, i. 647; *Tr. Internat. M. Cong.* (London), 1881, ii. 80.
5. **Graves**—Clinical Medicine, vol. ii., 1884, p. 220 (New Syd. Soc.).
6. **Horsley**—*Brit. M. J.*, 1896, ii. 1623.
7. **Michell Clarke**—*Bristol M.-Chir. J.*, 1887, v. 17.
8. **Horsley**—*Lancet*, 1886, ii. 1163.
9. „ —*Brit. M. J.*, 1896, ii. 1624.
10. **Edmunds**—*J. Path. and Bacteriol.*, 1898, v. 33.
11. **Murray**—*Lancet*, 1899, i. 747.
12. **Hutchison**—*Brit. M. J.*, 1897, i. 194.
13. **Edmunds**—*Tr. Path. Soc. Lond.*, 1896, xlvii. 235.
14. **MacCallum and Davidson**—*Med. News*, 1903, lxxxiii. 820; 1905, lxxxvi. 625.
15. **Gley**—*Brit. M. J.*, 1901, ii. 771.
16. **Walsh**—*Am. Med.*, 1905, ix. 815.
17. **Humphry**—*Lancet*, 1905, ii. 1390.

18. **Mackenzie**—*Brit. M. J.*, 1905, ii. 1077.
19. **Sajous**—The Internal Secretions and the Practice of Medicine, vol. i., 1903.
20. **Maurice Faure**—quoted by Sajous, *op. cit.*, p. 162.
21. **Osler**—Æquanimitas (Lewis, London), p. 271.
22. **Hutchison**—*Brit. M. J.*, 1898, ii. 142.
23. **Easterbrook**—*Lancet*, 1898, ii. 546.
24. **Batty Shaw**—Organotherapy, 1905.
25. **Edmunds**—Allbutt's System of Medicine, vol. iv., 1897.
26. **Lanz**—*München. med. Wchnschr.*, 1903, l. 146.
27. **Murray**—*Brit. M. J.*, 1905, ii. 1250.
28. **Hempel and Thienger**—*München. med. Wchnschr.*, 1905, lii. 14, 15.
29. **Murray**—*loc. cit.*, p. 1251.
30. **Maude**—*Tr. M. Soc. Lond.*, 1894, xvii. 12; *Brain*, 1894, xvii. 246.
31. **Michell Clarke**—Hysteria and Neurasthenia, 1905.
32. **Campbell**—*Brit. M. J.*, 1902, ii. 1420.
33. **Adams**—*Practitioner*, 1903, lxxi. 472.
34. **Collins**—*Post-Graduate*, 1905, xx. 470.
35. **Watson Williams**—*Clin. J.*, 1895–96, vii. 93.
36. **Murray**—*loc. cit.*
37. **Hector Mackenzie**—*loc. cit.*
38. **Edgeworth**—*Bristol M.-Chir. J.*, 1896, xiv. 41.
39. **Hall**—*Clin. J.*, 1895–96, vii. 38.
40. **Collins**—*loc. cit.*
41. *Brit. M. J.*, 1905, ii. Epitome, 87.
42. **Edmunds**—Erasmus Wilson Lectures—*Lancet*, 1901, i. 1317, 1381, 1449.
43. **Curtis**—*Med. Rec.*, 1905, lxviii. 715.

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# NOTES ON THE VOLUNTARY NOTIFICATION OF PHTHISIS, AND ON THE MUNICIPAL ATTITUDE IN BRISTOL IN REGARD TO THE DISEASE.

BY

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IN January, 1899, I had the honour of introducing the annual discussion on the Etiology and Prevention of Tuberculosis before the Bath and Bristol Branch of the British Medical Association.[1] Owing to the recent formation of the National

[1] *Brit. M. J.*, 1899, i. 835.

Association for the Prevention of Consumption and the renewed public interest taken in the matter, the occasion was a favourable one for the initiation of fresh effort in the city.

In April of the same year I prepared for the Health Committee a special report on tuberculosis, with a consideration of local conditions and preventive measures. This now forms a useful landmark from which to estimate recent progress.

In this report I pointed out that, during the ten years 1889-98 inclusive, the seven principal zymotic diseases had caused 4,673 deaths in Bristol, while pulmonary consumption alone caused 3,520, or, adding in the deaths from other tubercular diseases, those due to tuberculosis generally amounted to a total of 4,876 in the same period, or more than all the "zymotic" diseases put together. The total deaths from all causes in the same period amounted to 43,141, so that about one death in every nine was due to some form of tubercle, and one in every twelve due to consumption of the lungs.

At the same time I summed up the position thus:—"It is definitely established that tuberculosis is primarily due to a specific organism (the tubercle bacillus), while weakness of constitution and unfavourable conditions of life, habitation, and environment play an important but secondary part in its causation and spread. Transmission of the pulmonary form of the disease occurs, as a rule, directly by means of the dried sputum, from person to person, and may be controlled by the observance of precautions in regard to the patient and the room he inhabits, and the securing of disinfection in regard to the premises. Certain forms of the disease appear also to be caused, especially in the young, by milk from cows similarly affected, and, in smaller degree, by meat from affected animals. Prevention thus lies partly in the hands of the local sanitary authority, partly in the hands of the medical attendant, and partly in the hands of the patient."

In January, 1899, the Council of the British Medical Association issued a report which stated their conclusions as to the conditions to be aimed at in municipal control in regard to the prevention of tuberculosis, and I dealt with these conclusions *seriatim*, showing how far the city of Bristol then complied with

the conditions. It may be instructive to reconsider the conclusions and to estimate the progress that has been made.

1. DWELLINGS.

*Every house newly erected should be on a dry site and dry foundation (natural or artificial), and have sufficient space around it to allow of free access of air and sunlight. These conditions should be enforced by regulations of a national and not of a local (by-laws) character.*

The local by-laws were noted in 1899 as satisfactory, guarding against dampness and also providing for air circulation. The Public Health Acts Amendment Act 1890 is in force in Bristol, and prohibits building on noxious sites. The Model By-laws providing, *inter alia*, for the artificial elevation of low or damp sites, are not in force in Bristol.

2. MEAT.

*Properly qualified men should be appointed as meat inspectors.*

Two meat inspectors with good experience were on duty in 1899; no further appointment has yet been made to meet the recent extensions.

3. *Powers should be obtained from Parliament as follows:—*

(A) SLAUGHTER HOUSES. (In all County Boroughs.)

(1) *To afford facilities for providing public slaughter houses.*

(2) *To prohibit slaughter for gain except in a public slaughter house, after provision of such slaughter house.*

(3) *Elsewhere all licences to be renewable annually, and revocable easily.*

(4) *Compulsory examination of every cargo of imported meat, the charge to be borne by the importer.*

No public slaughter house had been provided in 1899. The question was fully reported on and the provision of one advised in 1895. No public slaughter house has been provided.

Licences granted after the adoption of the Public Health Acts Amendment Act 1900 are limited to twelve months, and may be revoked by a Court of Summary Jurisdiction upon conviction of an offence under the Act. This gives some control.

The importations into Bristol are practically entirely of live

cattle. If dead meat were imported no opportunity of inspection would be afforded under present conditions before it reached the shops.

There are 116 private slaughter houses in the city, and two belonging to the Docks Committee. The number of inspectors is obviously insufficient to maintain efficient control over so many scattered slaughter houses—the area of the city, which in 1897 was 4,661 acres, has now increased (1905) to 17,289 acres.

(B) Milk.

(1) *The minimum air space in cowsheds should be fixed at 800 cubic feet per cow.*

(2) *Power should be given to local authorities to inspect systematically or cause to be inspected all dairies and cowsheds from which milk is sent into their districts, and to exclude the milk if the application of the tuberculine test to any cow suspected of being tuberculous be refused, such inspection to be carried out by the Medical Officer of Health, with the assistance of a veterinary officer.*

(3) *Power to take samples of milk from any particular cow or cows.*

(4) *Power to prohibit the entrance of milk into any district if there are reasonable grounds for suspecting it to be tuberculous.*

(5) *All tumours (or affections) of the udders should be notifiable. If any cow is ordered to be slaughtered, there should be power to pay compensation if the cow proves not to be tuberculous.*

(6) *Imported milk (and dairy products) should be examined at the port of entry, the expense to be borne by the importer.*

When I reported in 1899 upon these suggestions, I pointed out that, while the regulations in force in the city prescribed due cubic space for cowsheds and powers of inspection and control for dairies situate within the city, they gave no powers available in regard to dairies, etc., situated outside the city, and no powers authorising any special action with regard to tuberculosis in cattle. The only powers then granted in regard

to outside dairies were under the Infectious Disease Prevention Act 1890, section 4, in the case of milk causing "infectious disease."

The Bristol Corporation Act 1905, which received the Royal Assent on August 11th, contains, however, several clauses, introduced by the Health Committee, as to milk supply and food, which show a distinct advance in our preventive measures.

The following are, briefly, the new provisions:—

PART VI.

*Clause 41.* Penalty of ten pounds on any person for knowingly selling within the city milk of any cow suffering from tuberculosis of the udder.

*Clause 42.* Penalty of five pounds on any person neglecting to separate a cow suffering from tuberculosis of the udder from the rest of the herd.

*Clause 43.* Penalty of forty shillings on every dairyman supplying milk within the city for neglect to send notice to the Medical Officer of Health that he has a cow suffering from tuberculosis, or suspected of so suffering.

*Clause 44.* Power given to Medical Officer of Health to take within the city samples of milk, also to take samples outside the city after obtaining a Justice's Order.

*Clause 45.* Power given to Medical Officer of Health to inspect, with the aid of a veterinary surgeon, cows in any dairy within the city for tuberculosis of udder, and to secure immediate samples of milk; also power to deal with a dairy within or without the city suspected of causing, or of being likely to cause, tuberculosis to persons residing within the city; with an accompanying penalty of five pounds for obstruction.

Acting on a recommendation in my report, the Health Committee authorised a systematic examination of the milk from all farms supplying the city, and this was carried out by Professor Délépine, of Manchester. The samples were taken from the milk as it was brought into the city for delivery. The results were more favourable than had been anticipated, for

out of seventy-four samples examined by the inoculation test only four showed the presence of tuberculosis.

4. Pathological Diagnosis and Disinfection.

(1) *All local authorities should make arrangement for the bacterial diagnosis of tuberculosis at the expense of such authorities.*

This had not been done in 1899, but arrangements are now (1905) in working order by which the bacterial diagnosis of tuberculosis is made at the cost of the Corporation for medical practitioners in regard to cases of Consumption occurring within the city.

(2) *Local authorities should undertake, free of charge, the disinfection of houses in which a tuberculous patient has resided, together with the bedding, clothing, and other articles capable of retaining the infection.*

This has been offered in the annual reports from 1891 onwards, but very little advantage was taken of it until the recrudescence of public interest in tuberculosis. During the year 1905, up to November 14th, 315 houses have been dealt with in this way by the inspectors.

Notification.

In September, 1903, the City Council approved of the initiation of a voluntary system of notification of phthisis. This came into force on September 7th, 1905, and 235 notifications had been received up to November 1st.

5. Treatment.

*Poor Law Guardians and Local Sanitary Authorities should be encouraged to provide suitable accommodation for the treatment of consumptive patients.*

In 1899 I had to report that no provision had been made locally, and expressed the opinion that "much good may no doubt result from properly directed treatment in the early stages of the disease."

I can now record (1905) that the Bristol City Council, on the recommendation of the Health Committee, have made the following arrangements for dealing with consumption in the city:—

WINSLEY SANATORIUM.

They have contributed a sum of £5,000 towards the acquirement of twenty beds in the Sanatorium, and they contribute a further sum of £1,300 annually towards the maintenance of these beds, which are reserved at their disposal. The Winsley Sanatorium was opened in December, 1904. The first Bristol case was admitted on February 27th, 1905. Fifty-three cases have been admitted up to November 1st, out of 147 applications received. Thirty-four cases have been discharged, in nineteen of these considerable improvement, and in nine others some degree of improvement, was recorded. In the remaining six no improvement was reported on discharge. When the early cases were admitted the applications were comparatively few, so that some of the beds became filled with less suitable cases than happens now that the applications are considerably in excess of the available beds. It is too early in our experience to criticise the results obtained up to date, and before venturing to do so the report of the medical officer to the institution, which will be issued for the year, must be carefully studied.

There is in my mind no doubt whatever that sanatorium treatment is *one* of the essential factors in the municipal dealing with consumption, a factor without which all other available measures would fail in great part to exert much useful good.

The good effect of sanatorium treatment consists partly in the result attained with the actual patient in building up and attuning his inherent resistance, so that in favourable cases the continued growth of the bacillus may be inhibited, and he may proceed to recovery, which pathological examination has demonstrated not to be an uncommon occurrence in tuberculosis; but far more wide-reaching is the effect of the training which an intelligent patient retains, not only for the future conduct of his own life, but by precept and example for the lives of others.

In tuberculosis, as in other parasitic micro-organismal diseases, no one factor can be assigned as the "cause"—neither "housing," nor "habits," nor "methods of work," nor "feeding," nor "hereditary" tendency, nor "dampness of site and soil"—but each may be contributory, and each in turn must be dealt with to ensure success.

The present arrangements of the Guardians for dealing with consumptive cases are as follows:—

*In the Stapleton Workhouse.*—A large ward containing thirty-six beds is reserved for male consumptives, special alterations having been made to the windows with a view to the treatment of this class of case.

*In the Southmead Workhouse.*—The Guardians are now utilising the temporary hospital attached to the Southmead Workhouse, which was recently acquired on the dissolution of the Barton Regis Union, for the treatment of female consumptives and children. This temporary building contains twenty-two beds.

Bye-Law Against Spitting.

In 1903 the Bristol City Council adopted the following Bye-law:—"A person shall not spit on the floor, side or wall of any public carriage, or of any public hall, public waiting-room, or place of public entertainment, whether admission thereto is obtained upon payment or not. Any person offending against this Bye-law shall be liable to a fine not exceeding £1."

Copies of this Bye-law and other notices have also been widely distributed to publicans, owners and occupiers of workshops and workplaces, and in various public places.

All recent contracts for the supply of meat and milk to the Bristol City Hospitals have been framed upon lines protective against tuberculosis.

*The Local Sanitary Authorities should also take steps to diminish overcrowding in tenement houses and cottages.*

The local regulations provide as follows:—

Bye-laws.

| | Cubic feet per head. |
|---|---|
| Common lodging houses— | |
| Sleeping rooms (2 children under 10=1 lodger) | 300 |
| Houses let in lodgings— | |
| Rooms used exclusively as a sleeping room ... | 300 |
| Room used as a sleeping apartment, but not exclusively for that purpose ... ... ... | 400 |
| Workshops. Factory and Workshop Act 1901— | |
| For each employé ... ... ... ... ... ... ... | 250 |
| Ditto, during overtime... ... ... ... ... ... | 400 |

THE OUTLOOK.

In view of the recently-awakened public and municipal interest in consumption, the outlook is, I think, distinctly favourable. Although this disease still holds an unfortunate pre-eminence amongst fatal micro-organismal diseases, it is satisfactory to note that since 1851 there has been a consistent and continuous reduction in the phthisis mortality in England and Wales, as shown here:—

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1851 | - 60 | = | 2.7 | 1881 | - 85 | = | 1.8 |
| 1861 | - 70 | = | 2.5 | 1886 | - 90 | = | 1.6 |
| 1871 | - 80 | = | 2.1 | 1891 | - 95 | = | 1.5 |

There is good reason to hope that the diminution may be not only maintained but improved upon.

GENERAL MEASURES.

*Medical Officers of Health are advised to draw up leaflets for distribution, describing the precautions to be taken to prevent tuberculosis, and also the precautions to be taken with patients to prevent the spread of infection, etc.*

Such instructions were first issued in Bristol in 1891, reprinted in 1892, 1893 and 1894, and were reissued in 1899.

In September, 1903-4, by direction of the Council, 80,000 copies of a revised pamphlet, which has appeared in the *Bristol Medico-Chirurgical Journal*, were issued through every district in the city, and as far as possible to every house; this was done on two occasions, with an interval of three months between. The distribution of these leaflets was first undertaken by the members of the St. John's Ambulance Brigade (City of Bristol Corps), who also undertook to provide Dettweiler Sputum Flasks, free of cost, to consumptive patients unable to afford the purchase. The Health Committee supply gratuitously, to patients recommended by the Corps, the necessary disinfecting solution for use in these flasks. The Health Committee have also in contemplation the provision of sputum flasks for certain deserving cases not reached by the St. John's Ambulance Association.

# A STUDY OF THE RECORDS OF ONE HUNDRED AND FIFTY-FIVE CASES OF OPERATION FOR APPENDICITIS.

BY

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*(Continued from p. 230.)*

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PERHAPS the most interesting part of this paper will be a confession of my mistakes in the diagnosis of appendicitis. I have once operated for acute appendicitis and failed to find it. In another case I found a pyosalpinx instead, which I removed; I need hardly say this was not to be regretted. In an elderly woman a hard lump seemed more likely to be a malignant growth of the colon, but turned out to be chronic suppurative appendicitis. I have already alluded to a case of large extra-peritoneal abscess, the nature of which was very puzzling. It was sent to me as a sarcoma in the loin. I could not make up my mind for some time between an inflammatory swelling and a new growth. I have operated on at least one case of suppurative appendicitis previously under treatment by another medical man for typhoid fever, but I have made the mistake myself of operating on a case of typhoid fever as one of acute appendicitis. Both this case, and the one in which I found no lesion at all, are so unusual and instructive that I will give an abstract of them.

Mr. Barker [1] records several cases of very instructive mistakes in the diagnosis of appendicitis; and in *St. Bartholomew's Hospital Reports*, 1899, p. 228 are the records of two cases in which operation was undertaken for acute appendicitis and nothing abnormal found. In one case "for severe symptoms."

I may also say that in one or two of my cases of operation for recurrent attacks I have failed to satisfy myself that there was distinct evidence that the attacks had been appendicitis.[2]

[1] *Brit. M. J.*, 1903, i. 477.

[2] See reference to Mr. Bowlby's paper after record of case 1.

CASE 1. *Symptoms of acute appendicitis; no lesion found.* I was asked to see a young man, aged 20, in consultation as a case of appendicitis. On September 10th he had taken some senna, and had abdominal pain and vomiting. There was of course nothing remarkable about that; but on the 12th, without taking any medicine, severe pain in the abdomen came on, and he was "doubled up" with it. He had to leave work, and go home and go to bed. It was better on the 14th, but became severe again at 8 a.m. on the 15th, and was so when his doctor saw him at midday. When I saw him, at 1.30, his temperature was 101°. He looked ill, with dry tongue, pulse 100. There was no distension of the abdomen, but it was tender in the lower part, and especially on the right side, there was no swelling. Per rectum, there was no tenderness or swelling. Late in the afternoon his temperature rose to 103°, and I operated (in the hospital) in the evening. I thought there was an appendicitis somewhere near the pelvic brim, but failed to find any evidence of disease on the outside of the appendix. I did not remove it. Perhaps if I had I might have found ulceration within, as in the case I have referred to in connection with portal pyæmia, in which the temperature was 108°, and yet there was not much more than ulceration within the appendix. This case could not have been typhoid fever, as he got quite well directly after the operation.

In a lecture published in the *Lancet* for July 9th, 1904, Mr. Bowlby refers to two cases under his own care, in which after several attacks, very little wrong was found with the removed appendices, certainly no sign of past inflammation, and yet in one of the attacks the temperature rose to 102.6°. He thinks that the symptoms in these cases are due to temporary distention of the appendix; but if so, why the temperature? In my case at the time of the attack there was no distention. Perhaps in time we shall understand the nature of these cases.

Case 2. *A case of typhoid fever simulating appendicitis.* A young man, aged 22, was sent to the hospital on November 7th last as a case of appendicitis. A week before he began to suffer from headache, but had no abdominal pain until November 3rd, and then when at work such severe pain came on in the lower abdomen as to "double him up." This pain continued, and became "unbearable," and kept him awake at night, but did not lay him up, and he walked up Park Street on the 5th. There had been no vomiting at any time, but diarrhœa had been present for a few days before admission. No epistaxis had occurred. I saw him at 8 p.m. the evening of admission. When asked where the pain started and also where it was then he pointed to McBurney's spot, but said he had had a little in

his epigastrum. Temperature 103°, pulse 100. There was no distention or general tenderness of the abdomen, but a tender, defined lump in the appendix region was present. I carefully considered the possibility of the case being one of typhoid fever, as there had been early headache and marked diarrhœa, but I thought the severity of the pain, and the presence of a definite lump (not merely distended coils) in the appendix region, so greatly against such a diagnosis, that I decided to operate at once. On opening the abdomen I found a considerable amount of clear serous fluid, and then I noticed two glands the size of small marbles loosely attached to the cæcum, and then a hard mass just on the inner side of the cæcum, and on bringing this out through the wound it was found to be the last two inches of the ileum very greatly swollen, and dark in colour. It felt almost as if the lumen had been obliterated from infiltration of its wall, and from it a mass could be felt projecting into the cæcum just like the apex of an intussusception, but there was no entering bowel, and it was evidently the enormously swollen mucous membrane of the ileo-cæcal valve. Two inches above the junction the ileum began to decrease in size, but was somewhat swollen for many more inches, and I could feel greatly thickened patches on the surface opposite to the attachment of the mesentery. There was a gland as large as a hen's egg under the peritoneum close to the cæcum. This and the swollen lower end of the ileum formed the swelling felt through the abdominal wall. I could make no certain diagnosis. I had never heard of such a condition of things in typhoid fever, but the patches of thickening along the ileum certainly suggested ulcers. The appendix was not affected. He was none the worse for the operation (pulse was 104 at end), and he remained in the same condition until the third day after, the pain persisting. On the third day the diarrhœa was troublesome, small black clots were passed with the motions, frequent vomiting set in, and he became jaundiced. No Widal re-action could be obtained. The next day the jaundice was very marked; he became delirious, and died on the 12th. There was no enlargement of the spleen or spots at any time. The temperature kept between 102° and 103° after admission, and ran up to 105° before death. Up to the time of his death no definite diagnosis could be made, though we took the precautions usual with typhoid cases. Such marked jaundice is most unusual in typhoid fever. *Post-mortem*. We found the mucous membrane of the last inch or two of the ileum at the valve was almost entirely destroyed by ulceration, and there were numerous ulcers in the lower ileum. No pathological change was found in the liver. The spleen was very slightly enlarged. No serous fluid had recollected in the abdomen. The glands had considerably decreased in size, and the swelling of the lower ileum was much less than during life. Such a condition as I found at the operation is seldom seen on the *post-mortem* table. A considerable

quantity of serous effusion is, so far as I know, not known to occur, and was not again present in the case a few days later when the *post-mortem* was made. So much swelling of the lower ileum as I found is again never found *post-mortem*, because the inflammatory swelling has largely subsided after death. But inasmuch as a definite lump was felt through the abdominal wall in this case, and is almost unknown in typhoid fever, the amount of swelling of the lower ileum and glands must have been most unusual. The cause of the jaundice was not explained. The case is a very instructive one as an example of typhoid fever with severe pain of sudden onset, associated with a definite swelling in the appendix region.

With a larger experience of the surgical treatment of appendicitis, I have not altered the opinion I expressed in my former paper, that the safest course to adopt is early operation, and that this should be done in all severe cases at once, because we cannot tell the extent of the mischief or the danger by any bedside signs or symptoms. I care very little as to the actual condition of the appendix, whether it is perforated or gangrenous, or only inflamed and allowing bacterial infection around; the real point of importance is the condition of surrounding infection. I have several times found a gangrenous appendix, shut off in an abscess sac, and on the other hand a minute perforation associated with general infection. No one who adopts the view that all severe cases should be at once operated on—and it is one the adoption of which is becoming quite frequent amongst surgeons now—denies that many cases recover without operation, and therefore in some cases an unnecessary operation will be done. I say in "some cases," because of the many who would recover without operation, subsequent operation would be required in a considerable number for relapse. We freely admit, I say, that this is so, and it is right to explain to patients that we cannot tell whether theirs is a condition from which they will recover without serious risk, or one which if not operated on early may, in spite of late operation, be beyond the control of surgical interference. There are many, of course, who say they are perfectly well able to distinguish the one kind of case from the other at every stage in its progress, but, alas! every now and then they call in the surgeon, or if surgeons, they operate, too late, when the opportunity has gone. I do not say that every

severe case of appendicitis should be operated on by inexperienced hands, and under unfavourable conditions as to light, assistants, and nursing, but certainly in conditions favourable to operation it is the safest course. My two fatal cases of diffuse peritonitis, several of my cases of general peritonitis, and all the cases complicated by intestinal obstruction, would almost certainly have recovered if they had been operated on as soon as the diagnosis of appendicitis could have been made. In the fourth case of intestinal obstruction, this would, of course, have been in the previous attack of appendicitis, which caused the adhesions. It is not enough to point to dozens of cases which have recovered from appendicitis without operation; as I have already said, no one denies their existence, though many of them have eventually to be operated on for recurrence. We must recognise the fact that every now and again a patient dies who could have been saved by an early operation, involving almost no risk in experienced hands.

I have seen a few cases of appendicitis in which I have not operated because the condition has been improving, or the patient has declined operation, and they have recovered. Those who see many cases of appendicitis recover without operation must think not only of these, but of the cases of general peritonitis handed over to the surgeon too late: of the cases of large foul abscesses proving fatal in spite of operation, from septicæmia—all cases which would almost certainly have recovered if the appendix had been removed as soon as the diagnosis of appendicitis had been made.

In my previous paper I stated that if the case was improving I should not operate, but that I did not feel quite happy about leaving such cases alone. Further experience has brought additional illustration of general peritonitis supervening when the patient seemed getting convalescent, as well as when the course of the disease seemed so favourable that no operation was considered needful; and other surgeons have published similar experiences of the fallacious signs of improvement, followed by general infection of the peritoneum. I have found a gangrenous patch in an appendix when the pain and tenderness had almost gone, and the case would not have been

operated on if portal pyæmia had not supervened; and in another case, in which the whole appendix was gangrenous and full of stinking pus, the pain of the onset had so much subsided that the girl slept the whole night preceding the day of operation, but, without recurrence of any severe pain, there was a rigor and high temperature. As Murphy of Chicago has pointed out, with the onset of complete gangrene the pain disappears. Again and again I have found pus after the subsidence of pain except on movement, and I think even after complete subsidence in some cases. I have operated on account of persisting pyrexia or recurring pyrexia in these cases. All tenderness as well as pain may disappear from an appendix abscess, and then the abscess may rapidly enlarge, with re-appearance of pain, or may give way and infect the general peritoneal cavity. Whilst writing this paper I have heard of a very striking case, which confirms what I have written. A case of appendicitis in the second attack seemed progressing so satisfactorily towards convalescence that an operation to remove the appendix to prevent further attacks was only undertaken at this early period as a matter of convenience. The patient had been free from pain, and the temperature normal for three days, and yet a gangrenous appendix was found in an abscess sac. There are no distinctive signs of the presence of pus at an early stage of appendicitis, and it is useless to endeavour to decide if pus is present or not. If the signs and symptoms of appendicitis are marked the appendix should be removed. Without any pus outside, and without protective adhesions, I have seen the appendix tensely distended with stinking pus, and yet the pain, which had been very severe, was for some hours before operation present only when the patient moved about in bed.

If operation is undertaken to prevent recurrence—and now a large number of surgeons advise operation for this purpose after even one attack—it is usually recommended that it should be put off until convalescence from the acute attack is complete. This means that the patient has to lay up again some weeks for the operation. I myself think that unless there is marked general distension of coils, which undoubtedly adds to the difficulty of removal of the appendix, there is no reason why the appendix

should not be removed as well in, as after, the attack, and the risk of that attack removed, as well as further attacks prevented. If we find pus it may not be well to remove the appendix, but then we should feel thankful we had operated, because we could evacuate the pus. One objection I have heard urged against operation during the attack to prevent recurrence was that the inflamed bowel is likely to tear. If the bowel around the appendix is so much damaged as to be likely to tear with gentle manipulation, then it seems to me evident—having regard to the immediate safety of the patient—that the sooner that appendix is removed the better. Certainly the removal of the appendix during the attack may necessitate the use of a drainage tube, but this need only be quite small, and the opening for it not large enough to really weaken the scar. Moreover, I use a very fine drainage tube in all cases operated on in the quiescent period.

I cannot conclude this paper—though I fear I have already made it too lengthy—without a reference to the rather burning question of the day—as to the removal of the appendix in all cases operated on. The only condition in which surgeons do not remove it is when it lies in the wall of an abscess sac formed by adhesions of intestinal coils, and well shut off from the general peritoneal cavity. Many of us refuse to take the risk of disturbing such adhesions, in order to isolate it and remove it. I have removed it in many cases of localised suppuration in which it has been readily reached, or in which there have been no adhesions, and the pus has been simply kept from diffusion by the presence of surrounding distended coils, or in which adhesions have been so feeble and imperfect as to be of little protective value; but I do not feel inclined to break down well-formed protective adhesions for the purpose. I do not think it gives rise to later trouble sufficiently often to justify the risk.[1] I think I have only had to remove the appendix for recurrent attacks twice after draining an appendix abscess in my 62 cases, but I have had to remove it for persistent suppuration in two cases, and in one case, such removal being refused, the

[1] Mr. Barling (*Brit. M. J.*, 1902, i. 455) records 47 cases of appendix abscess (all traced) in which the appendix was not removed, and of these only one had recurrent attacks.

patient died from persistent suppuration, and in one after an abscess had been drained and the wound healed further mischief in the appendix led to fatal peritonitis. In one case there were recurrent attacks but no operation was performed. I have not been able to follow up my cases yet, and try to discover whether any other patients have had to have the appendix removed, and therefore there may be more cases in which further trouble has occurred than I know of; but these are all the cases I can remember in which such trouble arose, with the exception of a few cases of persistence of a sinus for some time after operation. We must remember that when we open one of these abscess cavities which are well shut off we may see the terminal inch or so of the appendix lying almost free in it, and think it is a case in which we can remove the appendix without seriously destroying the surrounding adhesions; and yet the base of the appendix may be attached to the cæcum, well outside the abscess cavity, and in order to remove the whole appendix, or even all the evidently diseased part, it may be necessary to destroy all the protective adhesions. It may be that I am too conservative in this matter, and that if I write anything more on the question I may advocate always breaking down these protective adhesions, after, of course, most careful packing off with gauze, but at present I do not feel inclined to do so. It is interesting to note that Perrier (quoted by Ballance, *Brit. M. J.*, July 15th, 1905), who removes the appendix in all cases, has not increased his operative mortality by so doing. I referred to the experience of other surgeons with regard to this matter in the *Bristol M.-Chir. J.*, 1902, xx. 158.

I have myself in one case, during removal of the appendix which lay in the wall of an abscess sac, opened up two more abscesses, which I should never have discovered unless I had removed the appendix.

# Progress of the Medical Sciences.

## MEDICINE.

**Paratyphoid Fever.**—Several papers [1] have recently appeared on this subject, written both from the clinical and pathological points of view. The opinion is held by several writers that the disease is more common than is generally supposed. The unity of typhoid fever has for some time been doubted by many observers, and it is possible that the discrepancy which exists between the clinical evidence and the results of Widal's reaction may be partly explained by the presence of paratyphoid fever. "According to the statistics of the Johns Hopkins Hospital, two per cent. of all cases of typhoid fever present a negative Widal, but only four per cent. of proven cases give no reaction with the bacillus typhosus." The disease may occur in sporadic or epidemic form. Occasionally a mixed infection of the typhoid and paratyphoid organisms is met with. Up to the present different clinical types corresponding with the different varieties of the paratyphoid bacilli have not been definitely identified, although some of the authors regard the more fulminating and septicæmic form as associated with Type B. The age of the patients attacked and the seasonal incidence of the disease are the same as in true typhoid. Men are more frequently attacked than women, the proportion being roughly three of the former to one of the latter. The onset is frequently more abrupt than in true typhoid, the symptoms at this stage including vomiting, anorexia, headache, pains in the back and limbs, epistaxis, irregular fever, and very occasionally a rigor. In a few cases enlargement of the cervical and inguinal glands have been met with. The tongue is furred, general *malaise* increases, and labial herpes is not infrequently seen. Bronchitis is common. The bowels may become constipated, or there may be diarrhœa, the stools being light yellow and offensive. Abdominal distension is not a prominent symptom, though it may occur. Rose spots appear about the 21st day from infection; they are similar in character and distribution to those seen in true enteric, but may be twice the size. Scarlatiniform rashes, dark macular spots and petechiæ are also mentioned. The spleen may be felt in 50 to 75 per cent. of the cases. Although hebetude may be marked, a hyperacuity of mind instead of the characteristic somnolence of enteric fever is noted

[1] H. Fox, *Univ. Penn. M. Bull.*, 1905, xviii. 52; A. B. Smallman, *J. Roy. Army Med. Corps*, 1905, v. 137; P. Mackie, *Lancet*, 1905, ii. 874; E. Cautley *Brit. J. Child. Dis.*, 1905, ii. 241; W. G. Savage, *J. Path. and Bacteriol.*, 1905, x. 341; Parsons, *Brit. M. J.*, 1905, i. 305; J. N. Henry, *Am. Med.*, 1905, ix. 613.

in several cases. The pulse resembles that of typhoid, being slow in proportion to the elevation of the temperature; dicrotism is met with early. Intestinal hemorrhage occurs in about five per cent. of the cases. It is rarely severe. No case of perforation has been recorded. The urine is usually febrile in character, contains albumen, and frequently many bacilli. Numerous casts are sometimes seen. The diazo reaction is found in about a third of the cases, and indicanuria is not uncommon. Examination of the cellular elements of the blood gives no means of distinguishing this disease from enteric fever. Leucopenia is met with, followed by a lymphocytosis (54 per cent.) and a relatively large number of eosinophiles (10 per cent.). In one case the eosinophiles went up from 10 per cent. during the acute stage to 28·6 per cent. during convalescence, and later to 35 per cent. The diurnal variations in the temperature are more marked than in enteric fever. Very exceptionally, cases have been met with in which there was no pyrexia. The course of the disease is, as a rule, like one of mild typhoid. It is more liable, however, to end by crisis. Relapses occur. Widal's reaction is, as a rule, negative, unless the case is complicated by true enteric. The exceptions to this statement are briefly mentioned later.

Among the complications may be mentioned bronchitis, broncho-pneumonia, pleurisy, endocarditis, femoral phlebitis, meningitis, peritonitis, cystitis, nephritis, pyelonephritis, orchitis, cholecystitis and lithiasis, osteomyelitis, myositis, and lastly typhoid. The complications of the Type B infection are said to be more numerous and more purulent. The mortality of the disease is estimated at about six per cent.

*Morbid Anatomy.*—As a rule there is a general blood infection, the organisms being recoverable from the peripheral circulation. The spleen, if enlarged, shows the same macroscopical and microscopical changes as in true typhoid. The mesenteric glands may or may not be enlarged. There is cloudy swelling of liver and kidneys. Patches of local necrosis are found in the liver. In the intestine there is an absence of the typical typhoidal ulceration of Peyer's patches. In some cases no ulceration has been found. It is therefore possible that these are the cases which in past years have been described as typhoid fever without intestinal ulceration. Intestinal ulcerations, when met with, are very variable in character. In some cases there have been numerous ulcers, which have closely resembled those of dysentery, and have differed entirely from those of true typhoid. In all cases there was practically no alteration in Peyer's patches or the solitary follicles. Wells and Scott [1] describe the ulcers met with by them as seated in the lower ileum quite superficially, rarely going through the muscular wall, many having the submucosa as a base. They were sharply outlined, frequently coalescing, and lacking any

[1] *J. Infect. Dis.*, January 2nd, 1905.

reactive inflammatory process in their margins or beyond them. They were, however, slightly undermined. Some think that this form of intestinal ulceration is associated with the paratyphoid bacillus, Type A, while that form of the disease which is unassociated with intestinal lesions, the morbid anatomy of which is rather that of a septicæmic process, is due to infection with the paratyphoid bacillus, Type B.

*Bacteriology*.—The so-called paratyphoid bacilli belong to a group of organisms which are intermediate in their characteristics between the bacillus typhosus and bacillus coli communis. Other important organisms in the same group are B. enteritidis of Gärtner and B. dysentericus.

Of the paratyphoid bacilli two types are described, Type A and Type B respectively. Morphologically these two are alike, but differ in minor cultural peculiarities and in their serum reactions. They are actively mobile; their flagella are said to be about the same in number but longer than those of B. typhosus. The organisms have been recovered from the blood, urine, fæces, rose spots, spleen (by puncture), pus of abscesses, and the vagina. According to Henry, infection with Type B is very much more common than infection with Type A, being found in 69 out of 84 cases. Geographically the organisms are very widely distributed. In India the disease is apparently fairly common, and Percival Mackie suggests that this may be due to an exaltation of the virulence of the organisms by their passage through the bodies of animals, such as the pig, hares, pea fowl, cattle and buffaloes, which there feed on human excrement. In the case of cows, their milk also may be infected.

Clinically the majority of the cases seem to have been diagnosed by the presence of the symptoms of apparent typhoid, and absence of Widal's reaction. The serum tests for the different organisms of this group show considerable complexity. Thus W. G. Savage in a recent case isolated two organisms of identical morphology and cultural characteristics, which were both paratyphoid B. organisms. Widal's reaction in the case was entirely negative. The two organisms differed widely in their reactions to the patient's serum, one being clumped by a dilution of 1 in 70,000, the other only being clumped by a dilution of 1 in 1,000. In a second case he separated an organism from the urine, which, after full consideration, he considered to be a true typhoid bacillus. No paratyphoid organisms could be found. This patient's serum gave repeated negative Widal's, but agglutinated the paratyphoid bacillus separated from Case I. in a dilution of 1 in 5,000. This he regards as conclusive evidence of paratyphoid infection. "For while we now know that the serum reactions in typhoid are not entirely specific, and that paratyphoid bacilli are often agglutinated in uncomplicated typhoid fever cases, yet never in such high dilutions."

According to Fox, if there is a repeatedly positive agglutina-

tion of Type A in a typhoid case and no reaction at all to B. typhosus, the case may be considered a Type A infection. But this does not hold good with Type B. The serum from a case of Type B infection will clump B. typhosus. Isolation of the causative bacillus from the blood, fæces, &c., must under these circumstances be attempted. If a Type B culture is obtained the question of mixed infection remains. Certain graded dilutions of the patient's serum, to which is added definite amounts of Type B culture in the first experiments and B. typhosus in the second set, may be injected into the peritoneal cavities of guinea pigs. The organisms rendered harmless by the least amount of serum may be considered as the type of germ giving rise to the attack in question. A further test is Castellani's. This "depends upon the fact that the agglutinating property or body of a serum may be exhausted for both organisms giving the positive results when it is saturated with the etiological organism, while saturation by the co-agglutinated organism will not decrease the limit of agglutination for the causative factor."

J. R. CHARLES.

## SURGERY.

**The Surgical Treatment of hæmatemesis from gastric ulcer** is still the subject of various opinions, and we are indebted to Dr. Gilman Thompson [1] for an exhaustive inquiry into over 200 cases, with a view to determining the indications for operative treatment in this condition.

It is interesting to note in passing that in none of the cases has the study of the chemical analysis of gastric contents proved of determining value in the diagnosis, for the results have been too variable, not rarely in the same patient on successive days varying from acidity to hyperacidity. Additional difficulty is encountered in the variability and inconstancy of all the so-called "cardinal symptoms," such as pain, vomiting, or tenderness, any one of which may spontaneously disappear or give place to another.

He is not yet prepared to accept a definite clinical classification of gastric ulcer into acute and chronic types based upon hæmatemesis, as attempted by Moynihan, Samuel and others. This classification is based upon the fact that a number of cases occur in which there is a sudden single hemorrhage, followed by complete and permanent recovery under medical treatment, whereas with chronic ulcers there may be repeated small or large hemorrhages and other gastric symptoms recurring at intervals through months or years. Dr. Thompson, on the other hand, considers that a single large hemorrhage may denote a chronic ulcer, equally with an acute one.

To estimate the mortality of gastric ulcer by statistical methods is difficult, but of 195 cases with hæmatemesis received

[1] *Am. J. M. Sc.*, 1905, cxxx. 375.

into the Presbyterian Hospital 41 were fatal, and if to this be added the increased mortality arising from those cases which had not run their course, there is good ground for the plea of earlier surgical intervention in fairly typical cases. The case in favour of operation is made strong because the mortality of gastro-enterostomy for gastric ulcer appears to be gradually lessening under improved technique. Thus we find that Mayo Robson's [1] mortality rate for his own cases is only five per cent., and Moynihan's [2] figures are 153 gastro-enterostomies for ulcer with only two deaths, but in 22 cases of gastric hemorrhage which apparently would have soon proved fatal there were 19 recoveries after operation.

Dr. Blake [3] considers that a single large hemorrhage, without previous symptoms referable to ulcer, should not be operated upon, but when there have been antecedent symptoms operation should be performed. He also considers that cases suffering from recurrent hemorrhage should be subjected to operation. In these views Dr. Thompson concurs, and he would add that those chronic cases also should be operated upon in which the patient's life is either made miserable through pain, or endangered through persistent vomiting and emaciation, provided medical treatment tried for two or three weeks has failed to produce any improvement. This last indication has not yet met with the general acceptance which it deserves, but the writer of this article can bear testimony to the soundness of the view held, and to the excellent result of operative treatment in such cases.

Let the surgeon be given the advantage of dealing with cases not already made hopeless through anæmia, ulcers on the verge of perforation, or complicated by a mass of perigastric adhesions. To offset these grave dangers, an early gastro-enterostomy offers freedom from further hemorrhage, from chronic hyperacidity, pain, traumatic irritation of the ulcer by food, motor insufficiency, "hour-glass" stomach, and gastric dilatation.

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**Fracture of the Carpal Scaphoid and Dislocation of the Semi-lunar Bone.**—A sprained wrist is generally regarded as fairly easy of diagnosis and treatment, but Codman and Chase [4] maintain that many of these cases are examples of fracture or dislocation of the carpal bones, and they rightly consider that these injuries should be as definitely recognised as those of fracture or dislocation of any other bone. They show that in the large majority of sprains of the wrist which do not promptly recover the injury consists either in a simple fracture of the scaphoid, or an anterior dislocation of the semi-lunar bone. These two injuries are frequently combined, and in such cases

[1] *Phila. M. J.*, 1901, vii. 1005. [2] *Brit. M. J.*, 1905, i. 753.
[3] *Am. J. M Sc.*, 1904, cxxviii. 985. [4] *Ann. Surg.*, 1905, xli. 321, 863.

the proximal fragment of the scaphoid is usually dislocated forward with the semi-lunar bone.

Simple fracture of the scaphoid gives a definite clinical picture, and may be recognised, even without the X-rays, by the association of the following symptoms:—(*a*) The history of a fall on the extended hand; (*b*) Localised swelling in the radial half of the wrist-joint; (*c*) Acute tenderness in the anatomical "snuff-box" when the hand is adducted; (*d*) Limitation of extension by muscular spasm, the overcoming of which by force causes unbearable pain.

It appears that a broken scaphoid has little power of repair, and is capable of but little callus formation; and, therefore, those cases which remain untreated or are treated by massage and active and passive motion generally, if not always, remain ununited, and the original symptoms persist for years with only slightly abated intensity. On the other hand, cases of fracture of the scaphoid may unite if motion of the wrist is prevented during the first four weeks after injury, but if by this time no union has occurred future union is unlikely.

The authors consider that excision of the proximal half of a fractured scaphoid gives a somewhat better result than conservative treatment. This operation is best performed through a posterior incision to the outer side of the tendons of the extensor communis digitorum. Passive motion of the wrist joint and active movements of the fingers should be commenced within a week after the operation. (The possibility of a bipartite scaphoid should be considered in interpreting skiagrams of simple fractures of the scaphoid, but its occurrence must be very rare in comparison with fracture.)

The other injury referred to—anterior dislocation of the semi-lunar bone—should be recognised clinically, even without the X-rays, by the association of the following symptoms:—(*a*) The history of an injury of considerable violence to the extended or twisted wrist; (*b*) A "silver-fork" deformity, the posterior prominence of which corresponds with the head of the os magnum, and between which and the lower end of the radius is found a groove representing the position formerly occupied by the now anteriorly dislocated semi-lunar bone; (*c*) A swelling under the flexor tendons of the wrist just anterior to the lower end of the radius; (*d*) A shortened appearance of the palm as compared with the other hand; (*e*) Stiffness of the partially flexed fingers, motion of which, either active or passive, is painful; (*f*) The persistence of the normal relations of the styloid processes of the radius and ulna, and the existence of the shortening of the distance from the radial styloid to the base of the first metacarpal.

As regards treatment of this condition, it has been found that recent dislocations of the semi-lunar bone may be reduced with good result, even after the fifth week, by hyperextension followed by hyperflexion over the thumbs of an assistant held

firmly in the flexures of the wrist on the semi-lunar bone. Irreducible dislocations, however, demand excision of the semi-lunar bone and the whole or a portion of the scaphoid, if there is a coincident fracture of the latter.

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**Carcinoma of the prostate** occurs in about 10 per cent. of the cases of prostatic enlargement, but it is only lately that this serious affection has become amenable to radical treatment. Young,[1] after the study of 40 cases, has devised an operation which he has successfully applied in four cases. An early diagnosis is essential, and it must be therefore remembered that the disease may begin as an isolated nodule in an otherwise benign hypertrophy, or a prostatic enlargement which has for many years furnished the symptoms and signs of benign hypertrophy may suddenly become evidently malignant. Marked induration, if only an intralobular nodule in one or both lobes of the prostate in men past fifty years of age, should be viewed with suspicion, especially if the cystoscope shows little intravesical prostatic outgrowth, and pain and tenderness are present.

The posterior surface of the prostate should be exposed as for an ordinary perineal prostatectomy, and if the operator is unable to make a positive diagnosis of malignancy, a longitudinal incision should be made on each side of the urethra (as in prostatectomy) and a piece of the tissue excised for frozen sections, which can be prepared in about six minutes and examined by the operator at once. If the disease is malignant the incisions may be cauterised and closed, and the radical operation performed.

Cancer of the prostate remains for a long time within the confines of the lobes, the urethra, bladder, and especially the posterior capsule of the prostate remaining unaffected for a considerable period. Extra-prostatic invasion nearly always occurs first along the ejaculatory ducts into the space immediately above the prostate between the seminal vesicles and the bladder, and beneath the fascia of Denonvilliers. Thence the disease gradually invades the inferior surface of the trigone and the lymphatics leading towards the lateral walls of the pelvis, but involvement of the pelvic glands occurs late, and often the disease gives rise to metastatic deposits in the osseous system without first invading the glands.

Cure can be expected only by radical measures, and the routine removal of the seminal vesicles, vasa deferentia, and most of the vesical trigone with the entire prostate. The opening in the bladder is closed after the anterior part has been stitched on to the divided urethra.

The four cases in which the author has performed this operation show the simplicity, effectiveness, and the remarkably satisfactory functional results of the procedure.

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[1] *Johns Hopkins Hosp. Bull.*, 1905, xvi. 315.

# Reviews of Books.

**An Introduction to Physiology.** By L. A. Hodgkinson Lack, M.B., Ch.B. Pp. xii., 214. Edinburgh: William Green and Sons. 1905.

It is rather difficult to see the *raison d'être* of this book. It is a compilation of physiological facts, arranged in almost tabular form with sufficient explanation to enable a student to understand them if he had previously read an ordinary text-book. Great care has been taken to make the book accurate; but there is no originality of style or matter, and the hand of the compiler is apparent in every page. In spite of the author's disclaimer in the preface that the book is not intended to encourage "cramming," it is not very likely that it will be used for any other purpose. There are several passages one might take exception to, especially in the chapters or paragraphs on "The Central Nervous System," "The Development of Bone," and "The Reproductive System," but these criticisms are chiefly on too condensed—and therefore confusing—rather than on faulty statements and explanations.

In spite of the very considerable amount of skill and ingenuity shown in the arrangement and composition of this work, we must confess our disapproval of any attempt to make such a science as physiology a dead and uninteresting list of facts and condensed accounts of experiments.

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**Organotherapy.** By H. Batty Shaw, M.D. Pp. x., 256. London: Cassell & Company. 1905.

The sensational claims of over-zealous followers of the early teaching of Brown-Séquard has undoubtedly hindered the development of what bids fair to be a very important field of therapeutics. The great triumph which the thyroid treatment of myxœdema has justly secured makes the failure of reasonable expectations in other directions the more disappointing. This book gives an account of the physiology of the glands of the body with special reference to internal secretion, and it supplies a review of the practical applications in disease of the derivatives of various organs. Until recently the so-called ductless glands have been considered to be of little importance, but the phenomena of athyrœa and hyperthyrœa in association with myxœdema and Graves's disease have given the subject a vastly increased importance, and have suggested the idea that the products of other organs may be of similar importance in the etiology and treatment of many other diseases.

The first seven chapters are on questions relating to the thyroid and parathyroid glands, and here the author is on safe ground as regards the utility of thyroid preparations in myxœdema, but when we come to the antithesis of this disease he is able to adduce little evidence that anything as yet suggested may be looked upon as a specific remedy. There are few diseases for which thyroid extract has not been tried, and the author gives an excellent summary with abundant references showing what a large amount of investigation has been carried on, but with little result other than in the condition believed to be athyrœa.

Again, with regard to the supra-renal glands, five chapters on this topic give valuable information as to the multiple uses of adrenalin; but as regards the use of supra-renal extract in Addison's disease, there seems to be little reliable evidence of its utility.

The author gives an excellent summary of a vast amount of work done on many other organs, and he takes a very fair judicial view of the evidence before us; his book is one to be thoughtfully consulted and studied, and the serious inquirer will not go away empty.

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**Essentials of Human Physiology.** D. Noël Paton, M.D. Second Edition. Pp. xiii., 444. Edinburgh: Wm. Green & Sons. 1905.

This excellent text-book is probably better known in Scotland and the North of England than in the south. Its special features are that it is intended to deal with those parts of the now gigantic subject of physiology that are likely to be of practical importance to the medical student, and purely theoretical and scientific considerations are relegated to mere notices or altogether omitted. It is, moreover, intended to be read side by side with two specified books on practical physiology.

As illustrations of this method, it may be mentioned that the author describes how to feel a pulse and estimate tension, etc., and gives explanations of the sounds heard on auscultating the chest in full, even referring to the different types of cardiac bruits. He discusses the alleged hypersecretion of thyroid juice in exophthalmic goitre, and goes into details as to the reaction of degeneration in man, but on the other hand he does not so much as mention the various theories of hearing, discusses those of colour perception in about a dozen lines, barely touches on the mechanism of lymph production and the experimental data on which modern views depend, omits to mention acromegaly when discussing the pituitary body, and attempts to crowd Ehrlich's theory of side chains and immunity, with a reference also to toxins, cytotoxins, and precipitins, into two pages of large print.

There will probably be some difference of opinion as to the desirability of this method, depending on the larger question whether we should look upon physiology as a science *per se*, or as a mere stepping-stone to medicine. In these days of overburdened medical curricula the latter view will certainly find supporters, and they will do well to recommend this book. It will probably be quite adequate for the Conjoint Board, but is certainly insufficient for the Intermediate M.B. Lond. or the First F.R.C.S. Eng. It is written in the "summary" style, and every sentence is important.

Dr. Paton has met with praiseworthy success in endeavouring to bring the book up to date—a most difficult accomplishment in modern physiology. There are a few points on which there would now be difference of opinion; it is now thought that the coronary arteries fill in systole, that the vasodilator nerves leave the cord in the posterior nerve roots, and we have got beyond the days of the stromuhr for measuring the velocity of the blood, Dr. Stewart's investigations on which are not mentioned.

The printing is beautifully clear, and the book does not take long to read through. The illustrations are very diagrammatic. One or two of them, *e.g.* the obsolete one on page 180, might be omitted.

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**Errors of Refraction and their Treatment.** By CHARLES BLAIR, M.D. Pp. 103. Bristol: John Wright & Co. 1905.—To those who want a clinical pocket-book whilst working at refraction we can cordially commend this little volume. It is concise, and it is lucid. No unnecessary details are introduced, and although it closely resembles the chapters on refraction in various text-books, many practical details and useful hints are furnished. A few pages at the end of the book are devoted to examples illustrating the text. The book is certainly convenient for its purpose both in size and arrangement.

**Laryngeal Phthisis.** By RICHARD LAKE, F.R.C.S., and HAROLD BARWELL. Second Edition. Pp. xi., 120. London: Baillière, Tindall & Cox. 1905.—Such a well-written and beautifully-illustrated resumé of the symptoms and treatment of laryngeal tuberculosis has naturally called for a second edition. There is little in the book that may not be found in the current text-books on diseases of the throat, except the full description of the surgical methods practised by the authors. The growing feeling on the part of most of the leading laryngologists that active surgical interference with laryngeal tuberculosis should be strictly limited to a relatively small class of cases, compels the belief that the special advocacy of operative measures is undesirable. With this exception, we have pleasure in recommending this monograph to all practitioners.

**Mucous Membranes: Normal and Abnormal.** By W. STUART-LOW, F.R.C.S. Pp. vii., 59. London: Baillière, Tindall, & Cox. 1905.—This little monograph, which was originally a lecture given before the students of the Polyclinic College, is mainly a description of the mucous membrane throughout the body, and is such as may be obtained direct from ordinary text-books of anatomy and physiology. But it is worthy of note that mucin has some power as a germicide, and the author refers to his own researches proving its bactericidal properties, and to the work of Arloing, which confirm his own views. We should feel more impressed with the author's views if he had not wandered off on the subject of hypomyxia as a cause of cancer. Why does malignant disease attack and spread in the mammary gland? How simple the explanation, for "in this gland there are no mucous cells or glands whatever!" But amidst all the padding, and, as it seems to us, nonsense, we believe that the author has done good service in directing attention to the value of mucin as a local application in such troublesome complaints as atrophic rhinitis and pharyngitis sicca.

**The Rational Treatment of Running Ears.** By F. FAULDER WHITE, F.R.C.S. Pp. 35. London: Iliffe & Sons. 1905.—As stated in the preface, the object of this little book is to show the excellent results which the author has obtained in the treatment of chronic suppurative otitis by an operation which he terms otectomy, followed by frequent and copious irrigations. The operation consists in removing the membrana tympani and malleus always, and the incus usually. For the subsequent irrigation a solution of various silico-fluorides is recommended. The writer apparently believes that other surgeons have been unsuccessful in curing otorrhœa by the operations of ossiculectomy and myringectomy, because these operations have been less thorough in scope than his own otectomies. He writes: "Anyone who takes the trouble to study my reported cases will see for himself that otectomy has been proved to be the most safe and most satisfactory of all operative measures hitherto undertaken for the cure of suppurative otitis." The technique of otectomy is imperfectly described, and no illustrations are given of certain instruments devised and used by the author, and considered to be essential. We think we may safely say that all otologists of experience have tried operations hardly distinguishable except in name from otectomy as here described, and that the results have hitherto been found for the most part less certain and satisfactory than those obtained from the radical mastoid operation. It is obvious that such otologists will not be justified in supporting Mr. Faulder White's contentions until they have proved for themselves by actual experience that results at least approaching in degree of success those

reported by him are obtainable by his methods. That ossiculectomy or otectomy, call it what you will, is a less serious operation than the radical mastoid operation few will be found to deny, but we are of opinion that the author exaggerates the dangers and disadvantages of the latter proceeding in his desire to impress the reader with the advantages offered by the former. No doubt some of those into whose hands this booklet comes will be induced by the author's strong advocacy of the lesser operation to try it again, and subsequently to give more attention to thorough irrigation of the ear than they have done in the past. The object of both operations is the same. and the profession in the end will undoubtedly favour that mode of operating which achieves the object in view with the least disturbance of the affected organ and its surroundings.

**The Child's Diet.** By J. SADLER CURGENVEN. Pp. 96. London: H. K. Lewis. 1905.—This handy little volume contains a very sound and useful summary of the main principles of dietary in childhood. Infant feeding, concerning which the author has little new to say, is but briefly dealt with, the main portion of the book being devoted to the consideration of diet for older children. Dr. Curgenven is a strong supporter of the views recently expressed by Dr. Harry Campbell on the subject of mastication. He denounces the age of pap, and urges parents to give children food which they can bite, and to see that they do it. He also would reduce the amount of starchy food given to children of three or four years of age; this to be replaced by fat. In fact, he regards soft, easily-swallowed carbohydrates as the curse of modern dietetics, leading as they do to habits of imperfect mastication and insalivation. The two main difficulties in applying this principle are the higher cost of fatty foods and the curious repugnance to them which many children exhibit. The book contains chapters on the diet for children suffering from gastro-intestinal derangements, and also some very useful tables differentiating the starchy "foods" from those in which the starch is predigested or absent. There are also some useful recipes. For a book of this kind we think that rather too much space has perhaps been given to the description of pathological processes underlying digestive disturbances. These passages are, of course, intended for the lay reader; but even so should bile be described as the "natural antiseptic of the gastro-intestinal tract," or fats be said to "thicken the secretion from the liver"? These are, however, but minor points, and the practical advice given is on the whole excellent. The senior student even might derive many useful hints from its pages, as it deals very soundly with a subject which is apt to be something of a bugbear to him at the outset of his professional career.

# Editorial Notes.

**University College, Bristol. Faculty of Medicine.**

The annual distribution of prizes to the students of the Faculty of Medicine, on October 26th, 1905, under the chairmanship of the Right Honourable Lewis Fry, the Chairman of the Council, was this year distinguished by the presence of the Regius Professor of Medicine at Oxford, Dr. William Osler, whose assistance was much appreciated by his medical colleagues in Bristol, and whose address is one which will long be remembered. Professor Osler is well trained in the giving of such addresses, and few men have had such manifest tokens of the warm appreciation of his professional colleagues than fell to him at the great dinner given in New York just before his departure for England, when it was said justly of him that he had left a deep impress of his enthusiastic teaching in the medical circles of Montreal, Philadelphia, and Baltimore. Professor Osler's reply on that occasion is worthy to be remembered. He said: "I have three personal ideals—First, to do to-day's work well, and let to-morrow take care of itself; secondly, to act the golden rule toward my professional brothers and my patients; thirdly, to cultivate a certain measure of equanimity, to meet success with equanimity, to meet grief, pain, anguish and suffering with equanimity befitting a man. . . . I shall not worry so long as I carry the memory of the past you have given me. My mistakes have been of the head, not of the heart. I have loved no darkness, sophisticated no truth, nursed no delusion, and showed no fear."

His address to the Bristol students was as follows:—

"He had come to Bristol to talk as a student to students. He should like to express his thanks to the Faculty for the great honour they had done him in asking him to be present in a city which was associated with such men as Symonds, Prichard, Carpenter, Greig Smith, and Long Fox. To distribute the prizes at a school with which these men were connected was a distinction which he appreciated very much.

He wished to speak of the dual aspect of the student's life—first, of his professional education, of which the members of the Faculty had charge ; and, secondly, of his inner platonic education, of which the student was alone the custodian. If they wished to become successful practitioners, three things were requisite. The first was interest in their studies. They could do nothing in life unless they had an absorbing, a deep, and an abiding interest in their work. They had entered upon a profession of surpassing interest, and one of remarkable variety; indeed, it was one in which some considered there were rather too many interests. That was one of its great charms, however, its extraordinary variety in studies and research far surpassing that of any other profession. The second thing requisite for the student was industry. That was the one talent a man must have if he was to succeed in the profession. It was industry, industry, industry which alone insured success. If he had had any success in life it had been by the use of one talent—he only had one—the simple and single talent of inherited industry, without which no student could do well. The third thing essential was good health. They might smile at that statement, particularly the robust. Still, he would warn them that they could not neglect their health as medical students. Nor could they as doctors. It was a hard profession, even for the healthiest amongst them. How often they found the robust and strong in health as students failing in life because they neglected their health. Health being so essential, he would urge them thus early to take care of their health, to form good habits, to take plenty of exercise and plenty of fresh plain food. If they did this, even the delicate amongst them might find it the best thing for them. It was the second part of their education which was a much more serious and a much more important affair. It was the inner education, which went to form character, which was so much harder to acquire in this life. Yet there was no profession which required it so much as the medical profession. They might have science and all the endowments of the head, brilliant and deep; but if they had no endowments of the heart, if they had no culture, it was 'the sounding of brass and the tinkling of cymbals.' That was not the education which befitted a man for their profession. It was said that young men had too much to learn. So it might seem hard when he asked them to devote a certain part of their time to the cultivation of their characters. Many of them obtained their culture from contact with their teachers; but they, as medical students, could get it as well from good literature. It was an easy matter to devote one half-hour a day to the cultivation of their inner selves. To do this successfully they would have to start early, for they rarely saw a man attain to a high degree of culture who began after he had reached the age of 25. They should not strive to get what they could out of life, but what

they could give to life. If they learned that, they would have learned the highest lesson they could learn, for they would have got a sane and sensible outlook on the world."

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**Proposed University for Bristol.**

PROF. OSLER's remarks on this subject are most helpful in the cause of University Extension. He said: "They occupied a peculiar position in Bristol, inasmuch as their Medical School was the only Medical School in Great Britain not in connection with a University. The question was whether Bristol people had risen to the importance and thought—at any rate the preparedness for a University with which this Medical School could be incorporated. There could be no question about the advantages to be derived from such a course, and he alluded to the remarkable growth of the Medical Schools in Manchester and other large centres. There were three essentials to the carrying out of such a scheme—capital, men, and buildings. He explained how a continental town with which he was acquainted, and which bore some resemblance to Bristol, save that it was not a seaport, contributed £80,000 a year for its University. That was only the interest on £2,000,000; and was it too great a thing for Bristol to raise, say, £40,000 a year? It was so much better to give their surplus money away in this manner than hoarding it, and the sum he had named did not appear too large to ask for in this wealthy community. The capital should be forthcoming which should put their University at once in a position in the very forefront of the Universities of the world. When they had secured the capital they should not encroach too much upon it for buildings. They should then look for the men, for if the men were worth much it did not matter a great deal about the buildings. There were four kinds of Universities—first, those which had buildings, but neither men nor money; second, those with men, but precious little money—these often did the very best work; third, those with money and no men; and, fourth, those like the one which they might establish in Bristol—a University with buildings, money, and men, which would be worthy of the empire."

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**Faculty of Medicine.**

WE observe with great regret the resignation by Dr. E. Markham Skerritt of the posts of Dean of the Medical Faculty and Professor of Medicine at University College, Bristol. Dr. Skerritt, first as lecturer on and then professor of medicine, has been connected with the Medical School for a period of close upon thirty years. During the greater part of that time he has

also acted as Dean, and since the retirement of the late Dr. J. G. Swayne, some years ago, as Chairman of the Faculty. In these capacities Dr. Skerritt worked with indefatigable energy for the good of the Medical School, which owes a great debt of gratitude to him for his untiring labours on its behalf, and also for the wisdom with which he directed its affairs, and the courtesy and tact with which he presided over the meetings of the Faculty. He retires with the sincere regret and esteem of his colleagues, and in recognition of his many and great services to the Medical School during so many years he has been appointed Emeritus Professor of Medicine in the College.

Those who know how much good work Professor Edward Fawcett has done for the School since he has occupied the Chair of Anatomy will be pleased to hear that he has accepted the office of Dean, and will feel that the interests of the Medical School are in competent hands.

Dr. Michell Clarke has been appointed Chairman of the Faculty and Professor of Medicine, and in consequence has vacated the Professorship of Pathology and Morbid Anatomy, which will shortly be filled up.

Dr. Watson Williams has been appointed Lecturer on Diseases of the Nose and Throat.

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THE Annual Report of the Faculty of Medicine contains a record of many changes, and is of much interest. We therefore give it *in extenso*, as read by Professor E. Fawcett (Dean of the Faculty):—

"The past year, unlike its predecessor, has witnessed many changes in the staff of the Medical Faculty, and overshadowing all in importance is the resignation of one whom we are accustomed to associate with this Report, brought about by an occurrence as sad as it is the lot of any man to experience. For a period of some twenty-six years Dr. Markham Skerritt, our late Dean and Joint Professor of Medicine in this Faculty, has been prominently associated with medical education in this city. He served as secretary to the old Bristol Medical School for some fourteen years, and on the amalgamation of that School with the University College in 1893, Dr. Skerritt became first Dean of the Medical Faculty of that College, in which capacity he acted until his recent resignation. Not only had he acted as Dean during that period, but he had held the Joint Professorship of Medicine since its foundation. His resignation was received

with much regret by the Faculty of Medicine, and they have placed on record their high appreciation of the ability and zeal with which Dr. Skerritt has filled these offices, and particularly their recognition of the great services he has rendered to the Bristol Medical School and University College by the continued interest and work he has given to the post of Dean of the Faculty, and, moreover, they have felt and expressed their great sympathy with him in the cause of his resignation. His association with the Faculty will always remain one of those memories which it is pleasant to recall. The Faculty has also to record during the year the resignation of Dr. J. E. Shaw, who for a time was Joint Professor of Medicine; and of Dr. A. B. Prowse, who for seventeen years held the combined Lectureships of Pharmacology and Therapeutics and Materia Medica and Practical Pharmacy with marked success as a lecturer; of Dr. Michell Clarke as Professor of Pathology; and of Dr. J. O. Symes and Mr. Carwardine as Demonstrators of Anatomy. The Faculty very much appreciate the services these gentlemen have rendered to the school, and have been fortunate in retaining the valuable services of Dr. Michell Clarke as Joint Professor of Medicine in succession to Dr. Markham Skerritt. Dr. Edgeworth has succeeded Dr. J. E. Shaw as Joint Professor of Medicine; Dr. Newman Neild and Mr. O. C. M. Davis, B.Sc., have succeeded Dr. Prowse, it having been felt desirable that the Lectureships in Pharmacology and Therapeutics and Materia Medica and Practical Pharmacy should be held by different individuals. Dr. Newman Neild becomes Lecturer on Pharmacology and Therapeutics, whilst Mr. Davis is appointed Lecturer on Materia Medica and Practical Pharmacy. Dr. E. W. Hey Groves and Dr. S. V. Stock were appointed Demonstrators of Anatomy in succession to Dr. Symes and Mr. Carwardine. The vacant Chair of Pathology is as yet unfilled. Changes of another nature have to be recorded. The greatest satisfaction is felt by the Faculty at the great improvements in connection with the medical wing of the University College. The anatomical department has benefitted materially. Not only has the dissecting room been transformed almost beyond recognition, but a new suite of rooms has been added. The bacteriological department is now provided with an independent building which is fast approaching completion. The Faculty is much gratified at the great successes which have been obtained by the students of this College during the past year at the examinations of the various qualifying bodies and by the excellent work which has been done in the school."

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**Bristol Medico-Chirurgical Society.**

THE annual meeting of this active and prosperous Society was held on October 11th, 1905, and we have the pleasure to direct especial attention to the

Presidential Address of Mr. John Dacre (page 289). The new version of the old Arabian legend of Zadig and the King's horse should in future be rememberd here as Dacre and the stag. The President's views on the cultivation of the artistic side of the profession should give a new interest to the routine of daily medical life. Of the long series of Presidential Addresses since the year 1874 no one of them has been of more interest or more worthy of serious study.

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**Tuberculosis and Immunity.**

THE meeting of the International Congress on Tuberculosis at Paris has again directed especial attention to these subjects, and much has been written on the supposed discovery of a cure announced in the public journals and associated with the name of Professor von Behring, whose work with regard to diphtheria now meets with universal acceptance, and whose expectations with regard to the therapeutic efficacy of his new remedy will be waited for with the greatest anxiety. His book, which should appear next year, will give the evidence obtained by himself and others of the innocuous nature and of the therapeutic value of the new preparation. Meanwhile he wishes that his experiments on animals should be controlled by observers in other laboratories, and that the efficacy and innocuous nature of his new remedy should be established by clinicians. We sincerely hope that the misrepresentations of the lay press, resulting from the sensational method of announcement of his remedy, will not raise such hopes as will lead to disastrous disappointment in the future.

Meanwhile Professor von Behring's method seems to be grounded on the production of a cellular immunity induced by some constituent of the tubercle bacillus. It is difficult to follow the details of the statement made to the Paris Congress, and the literature on immunity has become so increasingly and appallingly complicated that papers on immunity are becoming only intelligible to the few; hence a study of the subject becomes more and more imperative, and the foundation of the superstructure is phagocytosis.

The translation by F. G. Binnie (*Immunity in Infectious Diseases*, by Elie Metchnikoff) of the great work on the subject, just published by the Cambridge University Press, should do much to disseminate a better knowledge of the theory of immunity than as yet prevails. The leading article in the *British Medical Journal* of October 21st, 1905, gives an excellent outline of Metchnikoff's views.

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**Proposed National League for Physical Education and Improvement.**

Miss Theodora Johnson's scheme for the establishment of systematic physical education throughout the empire is being gradually worked out. Many meetings have been held, and the importance of the subject is becoming more generally recognised. The objects of the League are stated as follows:—

"It is obvious that as the causes of physical imperfection are so numerous and act upon such numbers of people and over such a wide area, the means to combat these causes must also be various in kind, and must act over the whole length and breadth of the country.

"A great number of agencies are already at work giving instruction in the rules of health, in domestic hygiene and housekeeping, in cooking, and in the care of nursing mothers and in the feeding of children. Others are trying to lessen the consumption of alcohol by supplying nutritious food in its place and in other ways. Others again are trying to improve the physique of the rising generation by supplying gymnasia in town or country; by organising associations for physical exercise, such as cricket, football, drill associations, cadet corps, boys' brigades, rifle clubs, volunteer corps, and girls' clubs; by improving houses and purifying air.

"In the social class immediately above the lowest class of the population there are boys and girls whose occupations are sedentary and their wages small. They cannot afford to join tennis, cricket, football, and similar clubs. For these young and growing persons more playgrounds should exist, gymnasia and swimming baths should be available at a nominal cost. Already many municipalities are converting the swimming baths used only in the summer months into a gymnasia for the winter months.

"The numerous associations which are all working for the common object of increasing the physical development and well-being of our population are at present under the dis-

advantage of not knowing what the others are doing, and of being even unaware of their very existence."

A scheme of very considerable proportions is being organised, and a long list of influential supporters has already been secured. It is proposed that the subject shall be brought to the notice of the public of the West of England by means of a meeting to be held in the Colston Hall, on February 12th, 1906, the Lord Bishop of Bristol in the Chair.

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**Colour and Race.** THE sixth annual Huxley Lecture of the Anthropological Institute was given on October 31st by the ex-President of the Institute, Dr. John Beddoe, F.R.S., who, under the above title, gave an account of the circumstances which determine the colour of a nation's hair and the hue of a people's eyes. He dealt mainly with the problems relating to Central Europe and the British Islands. After adverting to various influences, such as heat, humidity, and different diseases in causing selection of brunettes in certain localities, he explained in detail a series of colour maps which had been prepared from the elaborate statistics compiled by the Belgian, German, and Austrian Statistical Bureaux. The Huxley Memorial Medal was then presented to the venerable anthropologist, much of whose scientific and literary work was done in our midst, and who delivered the Long Fox Lecture in the University College of Bristol in 1904.

## Notes on Preparations for the Sick.

We are indebted to Mr. H. Wippell Gadd for the following notes on the forty-second annual meeting of the British Pharmaceutical Conference, which was held at Brighton at the end of July last.

Many of the papers contained matter of considerable interest to the medical profession.

The presidential address was an exposition of the principle

of standardisation as recently applied to pharmaceutical products. Mr. Naylor said, "Standardisation, as applied to a crude product or preparation, is understood to imply that by a method of proper treatment, ascertained by practical experiments, it has been made to conform to a predetermined standard. The required standard may have a physical, chemical, or physiological basis, and may have reference either to one or more definite principles, or to a mixture of indefinable subjects, but the object of standardisation is to secure uniformity of products, more especially in respect to medicinal activity." He then proceeded to give the results of a comparative study of various processes published in recent years for the standardisation of drugs and their preparations, particularly belladonna, cinchona, ipecacuanha, nux vomica and opium. He concluded by pointing out the necessity of standards being fixed and maintained for such drugs as calabar bean, hemlock, henbane, jaborandi, stramonium and strophanthus.

Other papers which followed dealt with a variety of subjects, ranging from such ancient medicines as castor oil to the latest information concerning radio-active substances, and one on the new United States pharmacopœia showed how very great an advance it is upon anything yet published.

An interesting paper was read on the Chemistry and Pharmacy of the leaves of Viola Odorata, the author of which confirmed the discovery by mandelin of a glucoside, and showed how a solution could be prepared containing this principle freed from inert matter. No opinion was given as to the therapeutic value of the leaves, but it was thought that any activity which they possessed was due either to the glucoside, the ferment associated with it, or the product of its hydrolysis.

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**"Artox," Whole-meal Flour and Bread.**—APPLEYARD'S LIMITED, Rotherham.—The Artox flour is a pure whole meal, and being prepared by a patent process, the irritating particles of the bran are broken up—the sharp spicules of the bran, which in ordinary wheat meal are so irritating to a weak stomach, are rendered harmless. It is very well known that a whole meal is far more nourishing than the ordinary white meal, and that the ordinary white loaf is quite unable to supply all the nourishment necessary to the maintenance of human life. Many of the so-called whole meals are white flour, or seconds with a greater or smaller admixture of bran. In the Artox whole meal every particle of the wheat grain is preserved, and therefore this meal makes better bread, cakes, puddings and pastry than can be obtained by the use of white flour. It is quite true that "man cannot live by bread alone" if the bread is made from almost pure starch, but if the whole meal be used and butter added, then he may thrive on that combination without any other kind of food.

**Palatinoids.**—OPPENHEIMER, SON & Co., London.

**Trional**, gr. v., a convenient form for this slowly soluble powder.

**Cascara Compound**, a combination of cascara bark with a small dose of aloin.

**Metramine**, gr. v., a synthetical product, known chemically as hexamethylene tetramine. It has been found to be one of the best antiseptics for the genito-urinary tract.

**Compound Metramine**, contains metramine, gr. iv., with methylene blue, gr. i., and oils of copaiba and sandal.

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**Styptol. Neutral Phthalic Acid of Cotarnine; Styracol, Guaiacol Cinnamic-acid Ether.**—KNOLL & Co., St. Mary-at-Hill, London, E.C.—These preparations, made at Ludwigshafen on Rhine by the firm of Knoll and Co., appear to be worthy of further study and trial. Much evidence is adduced in their favour, and they are being much used on the Continent.

**Styptol**, the phthalic salt of cotarnine, is said to be better than either hydrastis, ergotin, or stypticin in the treatment of uterine hemorrhage. The sedative effect on the uterus is said to be comparable with the quieting effects of opium on the intestine. In cases of hemorrhage from the uterus the effect is prompt and rarely fails. It is prepared in sugar-coated tablets, of which three to five should be taken daily, or it may be given in doses of one grain every three hours. It may be administered even during pregnancy without risk of inducing uterine contraction or labour pains. In the treatment of profuse menstruation it should be a very useful palliative. It is a fine crystalline powder, easily soluble in water, and with a somewhat bitter taste. The original package contains a tube of twenty tablets, each having 0.05 gm. (gr. $\frac{3}{4}$) of the drug.

**Styracol**, the cinnamic-acid ethereal salt of guaiacol, is insoluble in cold water, is odourless, and wholly free from any taste of guaiacol. It is believed to pass through the stomach unchanged, and in the intestine is decomposed, giving off there the two valuable antiseptics, guaiacol and cinnamic acid; of the former some 40 per cent. more is liberated than from the other guaiacol compound in common use, the guaiacol carbonate. From the guaiacol administered in the form of styracol some 86 per cent. could be obtained from the urine in combination with ethyl-sulphuric acids. It should be possible by means of this non-poisonous drug to produce a continuous impregnation of the organism of the consumptive with guaiacol. Drugs are somewhat unfashionable at present in the treatment of phthisis, but we think that this preparation is one which should have an extended and persevering trial in all forms of tuberculosis. It may be given in powder with an equal

quantity of sugar, or in tablets each containing half a gramme. The daily dose may be increased to two drachms.

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**Tabloid.**—BURROUGHS, WELLCOME & Co.

**Rhubarb Extract**, gr. ij.—This preparation is made by a special process whereby the full therapeutic value of the drug is retained. It is a valuable stomachic and purgative, stimulating the flow of gastric juice and increasing peristalsis. In the digestive ailments of children it should be most efficient and acceptable.

One to three tabloids should be swallowed with a little water after food as may be deemed needful.

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**Pleated and Compressed Bandages and Dressings, "Tabloid" Brand.**—BURROUGHS, WELLCOME & Co.—We have received samples of bandages, boric lint, sal alembroth gauze, cotton wool, and other dressings, packed in such small parcels that a considerable quantity can be carried in the coat pocket. The pleating of the dressings permits them to be easily unfolded, and their coverings of parchment paper and tinfoil keep them from contamination. These compressed dressings should be very useful to the general practitioner.

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**Fer Bravais.**—130 Rue Lafayette, Paris.—A sample of this well-known preparation has been forwarded to us. It has been in use many years, and has at many exhibitions received gold, silver, and other medals with diplomas of distinction. In a concentrated form it possesses neither taste nor smell, and it can be diluted with wine, water, or other liquid without precipitation. It is a solution of peroxide of iron in water, so that it is in fact a soluble hydrate of iron, possessing all the good qualities of iron for medicinal purposes with none of its disadvantages. It has by its merits won considerable renown, and is likely to continue to be largely used.

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**Allenbury Diet.**—ALLEN & HANBURY, Plough Court, London, E.C.—The popularity of the various "Allenbury" infant foods has justified the makers in bringing the Allenbury Diet before the public. It is especially prepared for adult use, where a readily assimilable yet nourishing food is required. Its basis is farinaceous, but pancreatised dried milk is also included in its composition. One feature worthy of special notice is its freedom from excessive sweetness, so often a great drawback in invalids' foods. The readiness with which it can be prepared—simply by the addition of boiling water—should also commend it for use in the sick room.

**Yohimbine Spiegel.** — Chemische Fabrik Güstrow, Drs. HILLRINGHANS and HEILMANN; H. W. BRUMMERSTAEDT & Co., 3 Cross Lane, St. Mary-at-Hill, London, E.C.—The substance bearing this name is a well-defined crystalline alkaloid, first isolated by Dr. L. Spiegel from yohimbehe bark, which comes from a tree belonging to the natural order Rubiaceæ.

According to Ludwig Scholz decoctions of this bark have long been used as a tonic by natives of the Cameroons.

Its physiological activity has been experimentally determined by administering it to numerous animals, and it has a very marked effect on the sexual organs, being a powerful vaso-dilator. Yohimbine Spiegel appears to stimulate the lumbar region of the spinal cord, and the action has been observed to be curative in some cases of spinal weakness. The preparation should prove to be one of the most reliable aphrodisiacs; it has also been observed to possess a local anæsthetic action when applied to mucous membranes, but its toxicity is far less than that of cocaine.

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**Iothion** (Bayer).—THE BAYER Co. Ltd., 19 St. Dunstan's Hill, London, E.C.—This is a new organic preparation of iodine, intended for both internal and external use. Chemically it is a derivative of hydroxy-propane, and the therapeutic activity of the aliphatic halogen substitution products is too well known to need any comment. Iothion contains about 80 per cent. iodine, and is thus equal in strength to iodide of potassium, but its composition renders it more liable to absorption than inorganic compounds of iodine, and it does not give rise to irritation. In the form of an ointment it is best to use it combined with anhydrous lanoline, with or without the addition of a little vaseline, the latter substance rendering the unguent of more suitable consistency. Clinical experiments show that Iothion, applied externally, is often superior to the iodides usually administered internally, especially in cases of tabes and syphilitic neuritis.

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**Histogénol** (Naline).—ROBERTS & Co., 76 New Bond Street, London, W.—Histogénol is described as an active reconstituant for use in wasting diseases. It contains organically combined phosphorus and arsenic, and is prepared in the form of emulsion, elixir, and granules, also in bulbs for hypodermic injections.

From a physiological and chemical standpoint organically combined medicaments should possess greater therapeutic activity than when present as inorganic compounds, and numerous clinical observations tend to prove this assumption in the case of Histogénol.

It is recorded that in many cases the use of this preparation is followed by increase of weight, restoration of nitrogenous

equilibrium, and normal respiratory exchange. Such statements justify a trial in cases where a reconstituant is indicated. The makers claim that this remedy is capable of powerfully combating the evolution of pulmonary tuberculosis.

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**Brand's Beef Tea Tabules.**—BRAND & Co. Ltd., Mayfair, W.—These tabules are put up for sale in boxes of one dozen, one tabule being sufficient to make a breakfast-cupful of beef tea. A chemical examination shows that they contain proteid, an important constituent of all preparations used not only as stimulants but as actual foods. The flavour of the finished product is also agreeable, and we can with confidence recommend their use.

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**Metakalin** (Bayer).—Metakalin is a readily soluble antiseptic, which owes its efficacy to the presence of meta-cresol. The three isomeric cresols have long been in use as disinfectants, but it is believed that the meta compound is the most active. The toxicity of meta-cresol is less than that of phenol, but its antiseptic properties are probably equal. Metakalin is supplied in small cartridges, also in the form of tablets.

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## The Library of the Bristol Medico-Chirurgical Society.

*The following donations have been received since the publication of the List in September:*

*November 30th, 1905.*

| | |
|---|---|
| J. Paul Bush, C.M.G. (1) ... ... ... ... | 4 volumes. |
| J. Michell Clarke, M.D. (2)... ... ... ... | 5 ,, |
| Nelson C. Dobson (3) ... ... ... ... | 2 ,, |
| George M. Gould, M.D. (4)... ... ... ... | 1 volume. |
| L. M. Griffiths (5) ... ... ... ... ... | 21 volumes. |
| W. Arbuthnot Lane (6) ... ... ... ... | 1 volume. |
| J. H. Loch, M.D. (7) ... ... ... ... ... | 84 volumes. |
| Royal College of Physicians of London (8) ... | 1 volume. |
| R. Shingleton Smith, M.D. (9) ... ... ... | 3 volumes. |
| The Surgeon-General, United States Army (10) ... | 1 volume. |
| Council of University College, Bristol (11) ... | 1 ,, |

Unbound periodicals have been presented by Dr. Shingleton Smith, and pamphlets have been received from Mr. L. M. Griffiths.

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## FIFTY-EIGHTH LIST OF BOOKS.

The titles of books mentioned in previous lists are not repeated.

The figures in brackets refer to the figures after the names of the donors, and show by whom the volumes were presented. The books to which no such figures are attached have either been bought from the Library Fund or received through the *Journal*.

*Atlas of Clinical Medicine, Surgery, and Pathology, An* Fasc. XXII. ... 1904
**Bain and W. Edgecombe, W.** *Harrogate Waters, Baths and Climate* ... 1905
**Ballantyne, J. W.** ... *Manual of Antenatal Pathology and Hygiene—The Embryo* ... ... ... ... ... ... ... ... ... ... 1904
**Barton, G. A. H.** ... *A Guide to the Administration of Ethyl Chloride* ... 1905
**Bramwell, B.** ... ... *Clinical Studies.* Vols. I.—III. ... ... ...(9) 1903-05
**Bruce, J. M.** ... ... *Materia Medica and Therapeutics.* New [7th] Ed. 1905
**Bull, S.** ... ... ... *Aneurysma Aorta* ... ... ... ... ... ... ... 1905
**Capern, T.** ... ... ... *Mesmeric Facts* ... ... ... ... ... ... (5) 1870
**Carless, W. Rose and A.** *A Manual of Surgery*... ... ... ... 6th Ed. 1905
*Catalogue (Index-) of the Library of the Surgeon-General's Office, U.S. Army,* 2nd ser., Vol. X. ... ... ... ... ... ... (10) 1905
*Catalogue of Accessions to the Library of the Royal College of Physicians of London* ... ... ... ... ... ... ... ... ... (8) 1905
*Catalogue of the Library of the Pharmaceutical Society of Great Britain* (5) 1901
**Caton, R.** ... ... ... *How to Live* ... ... ... ... ... ... 2nd Ed. 1905
**Crichton, A.** .. ... *On Mental Derangement,* 2 vols. .. ... ... (5) 1798
**Crichton-Browne, Sir J.** *The Prevention of Senility and a Sanitary Outlook* 1905
**Dubois** [—] ... ... *Les Psychonéuroses et leur Traitement moral* (2) 1904
**Duncan, jun., A.** ... *Edinburgh New Dispensatory*... ... (5) 11th Ed. 1826
**Edgecombe, W. Bain and W.** *Harrogate Waters, Baths and Climate* ... 1905
**Godlee, R. J.** ... ... *An Atlas of Human Anatomy.* 2 vols. ... (3) [N.D.]
**Gordon, G. A.** ... ... *The Complete English Physician* (5) New Ed. [*c.* 1780]
**Gould, G. M.** ... ... *Biographic Clinics.* Vol. III. ... ... ... (4) 1905
**Hare, F.** ... ... ... *The Food Factor in Disease.* 2 vols. ... ... 1905
**Hartridge, G.** ... ... *Refraction of the Eye* ... ... ... (7) 9th Ed. 1898
**Herscheil, W.** ... ... *Indigestion* ... ... ... ... ... ... 3rd Ed. 1905
**Hurst, A. M. Marshall and C. H.** *A Junior Course of Practical Zoology.* Revised by F. W. GAMBLE. ... ... 6th Ed. 1905
**Hutchison and H. Rainey, R.** *Clinical Methods* ... ... ... ... 3rd Ed. 1905
**Kaminer, H. Senator and S.** [Eds]. *Health and Disease in Relation to Marriage.* Trans. by J. DULBERG. Vol. II. [1905]
**Lane, W. A.** .. ... *Cleft Palate and Hare Lip* ... ... ... ... (6) 1905
**Lower, R.** ... ... ... *Dr. Lower's and several other Physicians' Receipts* (5) 1700
**Luff and F. J. M. Page, A. P.** *A Manual of Chemistry* ... ... 3rd Ed. 1905
**Macdonald, D. M.** ... *Ambulance Examination Questions* ... ... ... 1905
**M'Gregor, A. N.** ... *A System of Surgical Nursing* ... ... ... ... [1905]
**McLatchie, J. D. P.** ... *Electrolysis in the Treatment of Facial Blemishes* 1905

**Marshall and C. H. Hurst, A. M.** *A Junior Course of Practical Zoology.* Revised by F. W. GAMBLE. ... ... 6th Ed. 1905
**Martindale, W. H. ...** *A Synopsis of the Principal Changes in the U. S. Pharmacopœia, 1900* ... ... ... ... ... ... [1905]
**Morris, J. ... ... ...** *Germinal Matter and the Contact Theory* (5) 2nd Ed. 1867
**Murphy, J. B. ... ...** *Tuberculosis of the Female Genitalia and Peritoneum* ... ... ... ... ... ... ... ... (1) 1903
**Newman, B. A. Whitelegge and G.** *Hygiene and Public Health.* New Ed. 1905
**Noorden and H. Salomon, C. von.** *Drink Restriction* ... ... .. ... 1905
**Nuttall, G. C. ... ...** *Guide to Leicester and Neighbourhood* ... ... (5) 1905
**Page, A. P. Luff and F. J. M.** *A Manual of Chemistry* ... ... 3rd Ed. 1905
*Pamphlets.* 3 vols. ... ... ... ... ... ... ... ... ... ... (5) [v.y.]
**Paton, D. N. ... ...** *Essentials of Human Physiology* ... ... 2nd Ed. 1905
**Rainey, R. Hutchison and H.** *Clinical Methods* ... ... ... ... 3rd Ed. 1905
**Rawling, L. B. ...** *Landmarks and Surface Markings* ... 2nd Ed. 1905
**Roberts, F. T. ... ...** *The Theory and Practice of Medicine.* 2 vols. 10th Ed. 1905
**Rolleston, H. D. ...** *Diseases of the Liver, Gall-Bladder and Bile Ducts* 1905
**Rose and A. Carless, W.** *A Manual of Surgery* ... ... ... ... 6th Ed. 1905
**Russell, J. B. ... ...** *Public Health Administration in Glasgow.* Edited by A. K. CHALMERS ... ... ... ... ... ... 1905
**Salomon, C. von Noorden and H.** *Drink Restriction* ... ... ... ... 1905
**Sandwith, F. M. ...** *The Medical Diseases of Egypt.* Part I. ... ... 1905
**Seigneux, R. De ...** *Le Livre de la Sage-Femme et la Garde* ... ... 1905
**Senator and S. Kaminer, H.** [Eds.] *Health and Disease in Relation to Marriage.* Trans. by J. DULBERG. Vol. II. [1905]
**Shaw, H. B. ... ...** *Organotherapy* ... ... ... ... ... ... ... ... 1905
**Shaw-Mackenzie, J. A.** *The Nature and Treatment of Cancer.* 2nd Ed. 1905
**Stewart, W. ... ...** *Treatment of Hepatic Disease by Chloride of Ammonium* ... ... ... .. ... ... ... ... (7) 1879
**Thompson, Sir H. ...** *Diet in Relation to Age and Activity* ... ... (5) 1887
**Thomson J. A. ... ...** *Outlines of Zoology* ... ... ... ... ... (7) 1892
**Treves, F. ... ... ...** *Surgical Applied Anatomy* ... ... (7) 4th Ed. 1889
**Whitelegge and G. Newman, B. A.** *Hygiene and Public Health.* New Ed. 1905
**Williams, C. ... ...** *A Plea for the More Energetic Treatment of the Insane* ... ... ... ... ... ... ... ... ... 1905
**Williams, J. ... ...** *On Procuring Sleep in Insanity* ... ... ... (5) 1845
**Wood, H. C. ... ...** *Therapeutics: Its Principles and Practice.* 12th Ed. 1905

## TRANSACTIONS, REPORTS, JOURNALS, &c.

American Journal of Obstetrics, The ... ... ... ... ... Vol. LI. 1905
Boston Medical and Surgical Journal, The ... ... ... Vol. CLII. 1905
Bristol Health Report for 1904 ... ... ... ... ... ... ... .. 1905
Buffalo Medical Journal ... .. ... ... ... .. ... ... Vol. LX. 1905
Clinical Journal, The ... ... ... ... ... ... ... ... Vol. XXVI. 1905
Clinical Society's Transactions ... ... ... ... ... Vol. XXXVIII. 1905
Edinburgh Obstetrical Transactions ... ... ... ... Vol. XXX. 1905
Glasgow Medical Journal, The ... ... .. ... ... ... Vol. LXIII. 1905
Hospital, The ... ... ... ... ... ... ... ... ... Vol. XXXVIII. 1905

Hospitals—
Montreal General Hospital, Pathological Reports (2) Nos. III., IV. [1897-1903]
Statistical Tables of St. Bartholomew's Hospital, 1904 ... ... 1905
Ireland, Transactions of the Royal Academy of Medicine in. Vol. XXIII. 1905
Library World, The ... ... ... ... ... ... ... ... ... Vol. VII. 1905
Medical Chronicle, The ... ... ... ... ... ... 4th ser., Vol. IX. 1905
Medical Library and Historical Journal ... ... ... ... Vol. II. 1904
New York, Transactions of the Medical Society of the State of ... 1905
New Zealand Medical Journal ... ... ... ... N.S., Vols. II., III. 1901–04
Practitioner, The ... ... ... ... ... ... ... ... ... [Vol. LXXIV.] 1905
Progressive Medicine ... ... ... ... ... ... ... ... ... Vol. III. 1905
Sanitary Record, The ... ... ... ... ... ... ... ... ... Vol. XXXV. 1905
Scottish Medical and Surgical Journal, The... ... ... ... Vol. XV. 1905
University College Bristol, Calendar of ... ... ... ... ... ... (11) 1905

# MEETINGS OF SOCIETIES.

## Bristol Medico-Chirurgical Society.

*Annual Meeting, October 11th, 1905.*

After a vote of thanks to the retiring president, Dr. Reginald Eager, had been unanimously passed, Mr. JOHN DACRE took the chair and gave an introductory address (see p. 289). Later a cordial vote of thanks was given to Mr. Dacre for his able and eloquent address.

The honorary secretary, Mr. H. F. MOLE, read his annual report. The balance in hand was £162 16s. 2d. on the ordinary account, and £11 14s. 10d. on the *Journal* account. A large grant had been made to the library.

The editorial secretary, Mr. JAMES TAYLOR, read his annual report, which was followed by that of Mr. C. K. RUDGE, the honorary librarian of the Medical Library. The latter report showed that the Bristol Medical Library now contained 21,274 volumes, and was in receipt of 226 current periodicals. These reports were adopted.

The following officers were chosen for the ensuing year: President-Elect, Mr. James Taylor; Members of Committee, Dr. J. Michell Clarke, Dr. B. M. H. Rogers, Dr. H. Waldo, Dr. P. Watson Williams, Mr. C. K. Rudge, and Dr. James Swain; and Members of the Library Committee, Mr. C. K. Rudge, Mr. Munro Smith, and Mr. T. Carwardine.

*November 8th, 1905.*

Mr. JOHN DACRE, President, in the Chair.

Dr. J. O. SYMES showed a patient who had been **injured by lightning.**

Dr. CHARLES showed a patient with paresis of the arms, the result of **syphilitic disease in the cervical region of the spinal cord and membranes.**

Dr. KENNETH WILLS read a paper on Soap in Skin Practice. He described certain tests he had applied to thirty varieties of soap advocated for skin diseases. Soaps which take the longest time to dry are the least irritating. Those which most quickly form bubbles on an inverted shaving brush are the most irritating. The quality and quantity of the substances left on the skin after rinsing away the soap determined the amount of irritation produced. Soap should leave a bland oil on the surface without free alkali. He showed specimens of soap of good quality which he had had made by a firm of soap manufacturers and which he now recommended when asked for advice in the matter.—Dr. J. O. SYMES alluded to some investigations he had carried out to ascertain how far antiseptics retained their properties when incorporated with soap. Antiseptic properties he had found were lost by carbolic acid, and that of the antiseptics tested biniodide of mercury best retained its bactericidal properties.—Mr. MUNRO SMITH did not accept the tests described by Dr. Wills as conclusive. He thought that the rancid odour often detected near soap works indicated that very bad fat was used in the manufacture.—Dr. WILLS said that he thought no acid incorporated with soap would remain free, but would unite with the alkali in solution. Soap did not bubble so quickly if superfatted.

Dr. W. H. C. NEWNHAM read notes of a case of **ectopic pregnancy**, and showed the specimen obtained from the patient. The patient was 38, had been married ten years, and had not been pregnant before. At the end of July she had been suddenly seized with abdominal pain and became seriously collapsed, and in this state was seen by Dr. Langridge. She was not operated upon until October 7th. There was then a swelling in the middle line of the abdomen. A fœtus of four or five months of age was found on laparotomy, in connection with the enlarged right Fallopian tube. The patient made an excellent recovery.—Dr. LANGRIDGE pointed out that appendicitis had to be considered as a possible cause of the illness when he had first seen the patient, but he had concluded that ectopic gestation was the cause of the symptoms. In considering the treatment of such cases regard must be paid to the difficulties and dangers attending operation in country districts far removed from hospitals and nursing homes.

Dr. WALTER SWAYNE read a paper on **ectopic gestation** and showed specimens. Three cases were described, in all of which

recovery had followed operation. In one of these the tube removed was distended but not ruptured. The speaker remarked that it is when the hemorrhage is small that there is doubt as to the necessity of immediate operation, and the accessibility of the patient is then to be taken into consideration.—The PRESIDENT alluded to a case of ectopic gestation he had met with in his practice. Pain in the groin following a fall had been first complained of. A few days later very severe pain was experienced, and a large swelling formed behind the uterus. Tubal pregnancy was diagnosed and the patient was removed to a surgical home for operation. During the night the patient aborted, but next morning the operation was proceeded with by Mr. Mole. The patient recovered.—Mr. MOLE thought this case was of exceptional interest because there had been both intra- and extra-uterine gestation at the same time.—Mr. PAUL BUSH alluded to a case in the Bristol Royal Infirmary in which a woman was admitted with a history suggesting miscarriage. The following day the patient suddenly became worse, and though operation was then performed within a few minutes the patient could not be saved. Such a case showed the danger of waiting even when everything was ready for quickly operating if the patient suddenly changed for the worse.—Dr. GREEN mentioned a case in which the patient had recovered without operation. He thought, nevertheless, that treatment by operation was the only safe one.—Dr. NEWNHAM concluded that for 99 out of 100 cases the only proper treatment was by operation. He had only himself seen one fatal case.

Dr. FORTESCUE-BRICKDALE read a short paper on **antituberculous vaccines and sera**, the former being attempts to produce an active, and the latter a passive immunisation against the disease. Vaccines might be classed in three groups, the first containing extraction products of the bacilli (bacterio-proteins), and resembling Koch's old tuberculin; the second containing disintegration products (bacterio-plasmins), of which Koch's bacterial emulsion was a type. The third class contained a few miscellaneous products not falling under either of the two first heads, such as Béraneck's tuberculin. The experimental and clinical facts concerning tuberculins were then dealt with, and their essential limitations indicated. The antituberculous sera were next described, of which the most important were Maragliano's and Marmorek's. The former was now somewhat discredited, but the latter appeared capable of doing good in certain cases, though too weak to be considered an actual specific. Finally, Behring's new protective substance was described, as far as is at present possible.

Dr. P. WATSON WILLIAMS alluded to the difficulties of tracing the connection between remedies and results in the treatment of tuberculous diseases. He had tried various sera. The patients usually reported themselves as feeling better, but no sera had gained his confidence. In lupus he had had very good

results in a certain number of cases, *e.g.* lupus affecting the larynx, nose and cornea. But the effects of sanatorium treatment were far better than those of any sera.

J. LACY FIRTH.
H. F. MOLE, *Hon. Sec.*

## Obituary Notice.

G. DUNDAS EDWARDS, M.A., M.R.C.S., L.R.C.P.

WE regret to record the death of Dr. Edwards, who died suddenly on October 1st in London. After taking his arts degree at Cambridge Dr. Edwards became a student at the Bristol Medical School and Royal Infirmary, and afterwards began practice in Bath; but very soon he contracted phthisis, and had to relinquish all work for some years. He subsequently spent some winters in Egypt, finally settling down at Assouan. Here his knowledge of men, tact, continental education, and linguistic abilities speedily ensured him success in the difficult work of medical practice in a health resort. He spent the summers in England, but his phthisis never really healed, and he was always glad to get back to sunnier climes. He will long be remembered by Bristol medicals as a finished and polished actor, and by his friends as a most delightful and amusing companion and raconteur. His little work on the climatic conditions and advantages of Assouan was reviewed in the March number of this year.

## Local Medical Notes.

**University College, Bristol.**—Professor Fawcett has been appointed Dean of the Medical Faculty, *vice* Dr. E. Markham Skerritt resigned. J. Michell Clarke, M.A., M.D., F.R.C.P., has been appointed Professor of Medicine. P. Watson Williams, M.D., has been appointed Lecturer on Diseases of the Nose and Throat.

The following examination successes of students of the College have recently been recorded:—

F.R.C.S. ENG.—*Primary Examination:* C. Clarke, S. C. Hayman.

CONJOINT BOARD OF ENGLAND.—*Chemistry and Physics:* D. Y. Hylton. *Medicine:* J. H. Board,* A. J. Wright,* F. G. Bergin.* *Surgery:* H. O. Gough,* A. N. Thomas,* J. H. Board,* and H. K. Salisbury. *Midwifery:* J. S. Avery.

L.D.S.—*Final Examination:* C. H. Taylor.

* Completes Examination.

**Wrexham Infirmary.**—C. G. Russ Wood, F.R.C.S., has been appointed Honorary Ophthalmic and Aural Surgeon.

**Bristol Royal Infirmary.**—A. Rendle Short, M.D., B.S., B.Sc. (Lond.), M.R.C.S., L.R.C.P., has been appointed House Surgeon.

**Bristol Royal Hospital for Sick Children and Women.**—Mr. J. H. Lavington, M.B.(Durh.), has been appointed Assistant House Surgeon.

**Bristol Dispensary.**—Alfred Coleridge, M.B., B.S., and Arthur W. C. Richardson, M.B. Lond., were appointed Surgeons.

**Newport General Hospital.**—Mr. A. N. Thomas, M.R.C.S., L.R.C.P., has been appointed House Physician.

**Bristol Royal Infirmary.**—The half-yearly meeting of the Governors of this institution was held on September 28th, under the presidency of Sir George White. The chairman stated that there was a considerable increase in the income for the half-year ending January, 1905, as compared with the six months ended January, 1904. He alluded with satisfaction to the fact that the unfavourable balance of £15,552 against the Infirmary had been paid off, but there still remained a sum of £35,000 to be raised to bring the institution up to modern requirements.

**General Hospital.**—The half-yearly meeting of the Governors was held on September 11th, under the presidency of Mr. Proctor Baker. The chairman stated that for the first six months of 1905 the average daily number of in-patients was 179.3. The financial statement was satisfactory. Additional accommodation for the nurses and new isolation wards are required. These extensions will entail an outlay of about £12,000, and it will be necessary for the Governors to make an appeal for that sum.

**Memorials to Dr. Edward Crossman.**—The Dowager Duchess of Beaufort formally opened the new building of the Hambrook Cottage Hospital, which has been erected at a cost of about £900 as a memorial to the late Dr. Edward Crossman, who died in 1904, and who practised for many years in the district. The new building has accommodation for six patients, five in two wards on the ground floor and one in a ward on the first floor. It replaces two cottages which were first used as a hospital in 1867 on the suggestion of Dr. Crossman, who continued as medical officer of the institution until within a few years of his death. On October 21st the Bishop of Bristol dedicated two handsome frescoes which have just been placed in the sanctuary of the chapel attached to the Diocesan Training Institute at Fishponds. They represent the raising of the daughter of Jairus and Christ blessing the children, and are a memorial to the late Dr. Edward Crossman, of

Hambrook, who for over over fifty years was medical officer to the institution.

**Voluntary Notification of Pulmonary Tuberculosis.**—This practice is now being carried out in Bristol. A fee of 2s. 6d. is paid for each case notified by a private medical attendant, unless the case has been notified by another practitioner, in which case 1s. is paid. The fee paid to medical officers of public institutions is 1s. For each change of address reported, giving the new address, a fee of 1s. is paid. The Health Committee of the Bristol Town Council has arranged to secure the examination of specimens of sputum for medical men free of cost.

## CARDIFF.

**Cardiff Infirmary.**—During the past twenty-four years the expenditure of this Infirmary has exceeded the income in fifteen years. In 1903 there was a balance of £371 on the right side, but this favourable result had not occurred since 1893. In 1904 the adverse balance was £1,654, though it is only right to say that the average number of patients in the Infirmary day by day during the year was 156, as compared with 122, the average of the preceding ten years. The number of out-patients was 19,525, compared with a yearly average in the previous ten years of 13,567. At a special meeting it was decided to appoint a committee to inquire into the abuse of the out-patient department, and the best means of economising the administration of the department without impairing its efficiency.

## DEVIZES.

**Devizes Joint Isolation Hospital.**—This Hospital, recently erected jointly for the Devizes Urban and Rural District Council, was formally opened on October 31st. It contains twenty-two beds in the main building, and there is in addition a small pavilion for cases of diphtheria. The cost of the undertaking has been £10,269.

## EXETER.

**West of England Eye Infirmary.**—At the annual meeting of the Governors, held recently, the medical report stated that during the past year 3,189 patients had been treated, and that the daily average number of in-patients was 51. The financial statement was satisfactory, and showed that the Committee had been able to invest £500.

# INDEX.

(R.)=Review.


Abdominal pain—Dr. A. E. Maylard (R.), 162.
Acne vulgaris and its treatment—Dr. W. K. Wills, 113.
Adrenalin, Danger of, 252.
Albuminuria, Physiological, 239.
Alexander, Obituary notice of James, 189.
Allbutt, Dr. T. C.—Notes on the composition of scientific papers (R.), 66; The historical relations of medicine and surgery to the end of the sixteenth century (R.), 254; The prevention of apoplexy, 1.
Anæsthesia, Golden rules of—Dr. R. J. Probyn-Williams (R.), 70.
Anatomy, Applied — Dr. E. H. Taylor (R.), 255.
Anatomy, Surface—Dr. T. G. Moorhead (R.), 166; Dr. L. B. Rawling (R.), 60.
Antiseptic, The (R.), 72.
Anti-vivisection, The case against—S. Paget (R.), 72.
Anus, Diseases of the rectum and—Dr. C. H. Leaf (R.), 262.
Apoplexy, The prevention of—Dr. T. C. Allbutt, 1, 74.
Appendicitis, A study of the records of 155 cases of operation for—C. A. Morton, 223, 360.
Appendicitis, Clinical lectures on—G. R. Turner (R.), 169.
Asepsis, The principles and practice of—Dr. A. S. Vallack (R.), 265.
Assouan, Notes on—G. D. Edwards (R.), 70.

Bain, Dr. W. [Ed.]—A text-book of medical practice (R.), 257.
Baldness, The causes and treatment of—Dr. H. Waldo, 107.
Barwell, R.—Lateral curvature of the spine and pelvic deviations (R.), 169.
Begg, Dr. C.—Sprue, 138.
Bell, Dr. R.—Cancer: its causation and curability without operation (R.), 69.
Bennett, Sir W.—Recurrent effusion in the knee-joint (R.), 266.
Berry, Dr. G. A.—Manual of practical ophthalmology (R.), 172.
Bidwell, L. A.—A handbook of intestinal surgery (R.), 266.
Blair, Dr. C.—Errors of refraction and their treatment (R.), 377.
Blood pressure, 148.
Bosanquet, Dr. W. C. — Serums, vaccines and toxines (R.), 264.
Bourcart et F. Cautru, Drs. M.—Le ventre (R.), 63.
Bramwell, Dr. J. M. — Hypnotism (R.), 62.
Bristol health report (R.), 70.
Bristol Medico-Chirurgical Society, 84, 184, 395.
Bristol Royal Infirmary, 278.
British Medical Association, Leicester meeting of the, 270.
Burdett's hospitals and charities (R.), 269.
Burnet, Dr. R. W.—Foods and dietaries (R.), 166.
Burton-Fanning, Dr. F. W.—The open-air treatment of pulmonary tuberculosis (R.), 260.

Cancer, Hypodermic medication in the treatment of inoperable—Dr. J. A. Shaw-Mackenzie (R.), 171.
Cancer: its causation and curability without operation—Dr. R. Bell (R.), 69.
Carbolic acid, Nephropexy by means of the application of strong—T. Carwardine, 24.
Carpal scaphoid, Fracture of, 372.
Carr, Obituary notice of Alexander, 94.

Carwardine, T.—Nephropexy by means of the application of strong carbolic acid and temporary support, 24; Report on surgery, 244.
Catalogue (Index-) of the Library of the Surgeon-General's Office, United States Army (R.), 71.
Cautru, Drs. M. Bourcart et F.—Le ventre (R.), 63.
Cerebellar tumours, On some symptoms of—Dr. J. M. Clarke. 97.
Cerebro-spinal meningitis, 151.
Charles, Dr. J. R.—Report on medicine, 368.
Childbed, Deaths in—Dr. W. Williams (R.), 171.
Child's diet, The.—J. Sadler Curgenven (R.), 379.
Cholelithiasis, The surgical aspect of—Dr. J. Swain, 208.
Clarke, Dr. J. M.—Hysteria and neurasthenia (R.), 258; On some symptoms of cerebellar tumours, 97; The relation of medicine to the natural sciences, 193; Two cases of myasthenia gravis, 308.
Cohnheim, Dr. P.—Die krankheiten der verdauungskanal (R.), 259.
Colour and race, 387.
Colour blindness, The services and, 253.
Composition of scientific papers, Notes on the—Dr. T. C. Allbutt (R.), 66.
Consumption, Case paper and chart for (R.), 168.
Consumption, Pulmonary—Dr. A. Latham (R.), 71.
Cornea, The healing of incisions in the, 250.
Cotton, Dr. W.—Twin X-ray representation and the reflecting stereoscope, 216.
Cowen, R. J.—X-rays: their employment in cancer and other diseases (R.), 170.
Cunning, Dr. J.—Aids to surgery (R.), 169.
Curgenven, J. S.—The child's diet (R.), 379.

Dacre, J.—The family doctor, 289.
Davies, Dr. D. S.—The voluntary notification of phthisis, 351.
Davis, O. C. M.—The progress of pharmacy and pharmaceutical chemistry, 120.
Dermatology, An introduction to—Dr. N. Walker (R.), 268.

Ear, Diseases of the—Dr. J. K. Love (R.), 261; R. Lake (R.), 69.
Ears, The rational treatment of running.—F. F. White (R.), 378.
Edgeworth, Dr. F. H.—On some anomalous cases of locomotor ataxy, 234.
Edinburgh obstetrical transactions (R.), 172.
Editorial notes, 73, 173, 270, 380.
Edwards, G. D.—Notes on Assouan (R.), 70; Obituary notice of, 398.
Electricity, Medical—Dr. H. L. Jones (R.), 265.
Experiments on animals, What we owe to—S. Paget (R.), 72.
Eyeball, Excision of the, 249.

Family doctor, The.—J. Dacre, 289.
Fernie, Dr. W. T.—Meals medicinal (R.), 64.
Firth, Dr. J. L.—Report on surgery, 53.
Fisher, Dr. J. H.—Ophthalmological anatomy (R.), 63.
Fisher, Dr. T.—Report on medicine, 49.
Foods and dietaries—Dr. R. W. Burnet (R.), 166.
Fortescue-Brickdale, Dr. J. M.—A new scheme for infant milk depôts, 132; A note on congenital dilatation of the ureters with hydronephrosis, 231.
Fox lecture, The Long, 317.
Froussard, Dr. P.—Muco-membranous enterocolitis (R.), 167.

Gant, Autobiography of Frederick James (R.), 165.
Gastric ulcer, Surgical treatment of hæmatemesis from, 371.
Graves's disease, The pathology and treatment of—Dr. R. S. Smith, 317
Griffiths, L. M.—Medical philology (R.), 165.
Griffiths, Obituary notice of Arthur David, 284.
Grimsdale, Dr. H. B.—Errors of refraction and their correction (R.), 268; The chief operations of ophthalmic surgery (R.), 64.

Groves, Dr. E. W. H.—On the advantages of enucleation of the tonsils over their removal by the guillotine, 32.

Hæmatemesis from gastric ulcer, Surgical treatment of, 371.
Hall and G. Herxheimer, Drs. I. W. —Methods of morbid histology and clinical pathology (R.), 256.
Heart, Arhythmia of the—Dr. K. F. Wenckebach (R.), 61.
Herxheimer, Drs. I. W. Hall and G.—Methods of morbid histology and clinical pathology (R.), 256.
Higgens, C.—A manual of ophthalmic practice (R.), 267.
Histology and clinical pathology, Methods of morbid—Drs. I. W. Hall and G. Herxheimer (R.), 256.
Historical relations of medicine and surgery—Dr. T. C. Allbutt (R.), 254.
Hospital abuse, 75.
Hospitals and charities, Burdett's (R.), 269.
Hydronephrosis, Congenital dilatation of the ureters with — Dr. J. M. Fortescue-Brickdale, 231.
Hypnotism — Dr. J. M. Bramwell (R.), 62.
Hysteria and neurasthenia — Dr. J. M. Clarke (R.), 258.

Inebriety and the so-called cures—J. Stewart, 144.
Infant life, 276.
Infant milk depôts — Dr. J. M. Fortescue-Brickdale, 132.
Insanity, A short essay on—C. Williams (R.), 66.
Intestinal surgery—L. A. Bidwell (R.), 266.

Jaundice, Benign infectious, 243.
Joint swellings simulating gout and rheumatism—Dr. R. L. Jones 127.
Jones, Dr. H. L.—Medical electricity (R.), 265.
Jones, Dr. R. L.—Cases of joint swellings simulating gout and rheumatism, 127.
Journal of the Röntgen Society, The (R.), 70.

Keratitis in the new-born, Traumatic, 251.
Keratitis, Interstitial, 252.
Knee-joint, Recurrent effusion in the—Sir W. Bennett (R.), 266.

Lack, Dr. L. A. H.—An introduction to physiology (R.), 375.
Lake, R.—Handbook of diseases of the ear (R.), 69; Laryngeal phthisis (R.), 377.
Lamb, Dr. W.—Guide to the examination of the throat, nose, and ear (R.), 268.
Landmarks and surface anatomy—Dr. L. B. Rawling (R.), 60.
Laryngeal phthisis.—R. Lake (R.), 377.
Laryngology, Report on—Dr. P. W. Williams, 57.
Larynx, Malignant disease of the—Dr. P. R. W. De Santi (R.), 65.
Latham, Dr. A. —The diagnosis and modern treatment of pulmonary consumption (R.), 71.
Leaf, Dr. C. H.—Surgical case book charts for rectal diseases (R.), 262: The diagnosis and treatment of some of the common diseases of the rectum and anus (R.), 262.
Library of the Bristol Medico-Chirurgical Society, 82, 181, 281, 392.
Life assurance, Some notes on examinations for — Dr. R. S. Smith, 11.
Light treatment for nurses, Treatise on—Dr. J. H. Sequeira (R.), 171.
Local medical notes, 95, 190, 285, 398.
Locomotor ataxy, On some anomalous cases of — Dr. F. H. Edgeworth, 234.
London, Transactions of the Medical Society of (R.), 168.
London, Transactions of the Obstetrical Society of (R.), 172.
Love, Dr. J. K.—Diseases of the ear (R.), 261.

McKay, Dr. W. J. S. — The preparation and after-treatment of section cases (R.), 162.
Maclean, Dr. E. J. — Three cases of ovarian tumour complicating pregnancy, labour and the puerperium respectively, 40.

Macnaughton-Jones, Dr. H. — Practical manual of diseases of women and uterine therapeutics (R.), 269.
Maylard, Dr. A. E. — Abdominal pain (R.), 162.
Meals medicinal—Dr. W. T. Fernie (R.), 64.
Medical annual, The (R.), 264.
Medical practice, A text-book of—Dr. W. Bain [Ed.] (R.), 257.
Medicine, Reports on—Dr. J. R. Charles, 368; Dr. T. Fisher, 49; Dr. N. Neild, 239; Dr. G. Parker, 148.
Medicine to the natural sciences, The relation of—Dr. J. M. Clarke, 193.
Milk depôts, Infant — Dr. J. M. Fortescue-Brickdale, 132.
Moorhead, Dr. T. G. — Surface anatomy (R.), 166.
Morton, C. A.—A study of the records of 155 cases of operation for appendicitis, 223, 360; Report on surgery, 153.
Moullin, Dr. C. M.—Enlargement of the prostate (R.), 71.
Muco-membranous enterocolitis—Dr. P. Froussard (R.), 167.
Mucous membranes—W. Stuart-Low (R.), 378
Myasthenia gravis, Two cases of—Dr. J. M. Clarke, 308

Nasal septal deviations by submucous resection, Treatment of, 59.
Natural sciences, The relation of medicine to the—Dr. J. M. Clarke, 193.
Nauheim treatment of chronic heart disease, The—Dr. L. T. Thorne (R.), 71.
Neild, Dr. N.—Report on medicine, 239.
Nephropexy by means of the application of strong carbolic acid and temporary support — T. Carwardine, 24.
Neurasthenia, Hysteria and — Dr. J. M. Clarke (R.), 258.
New York, Transactions of the Medical Society of the State of (R.), 67.
Obituary, 92, 189, 284, 398.
Obstetrical Society of London, Transactions of the (R.), 172
Obstetrics, Report on—Dr. W. C. Swayne, 156.
Ocular circulation, The—Dr. J. H. Parsons (R.), 267.
Open-air treatment of pulmonary tuberculosis, The — Dr. F. W. Burton-Fanning (R.), 260.
Ophthalmic practice, A manual of —C. Higgins (R.), 267.
Ophthalmic surgery — Dr. H. B. Grimsdale (R.), 64.
Ophthalmological anatomy — Dr. J. H. Fisher (R.), 63.
Ophthalmology, Practical — Dr. G. A. Berry (R.), 172.
Ophthalmology, Report on — Dr. C. H. Walker, 249.
Organotherapy—Dr. H. B. Shaw (R.), 375
Ovarian tumour complicating pregnancy, Three cases of—Dr. E. J. Maclean, 40.

Paget, S.—The case against antivivisection (R.), 72; What we owe to experiments on animals (R.), 72.
Paratyphoid fever, 368.
Parker, Dr. G.—Report on medicine, 148.
Parsons, Dr. J. H.—The ocular circulation (R.), 267.
Parsons, Obituary notice of James St. John Gage, 285.
Pathology, Methods of morbid histology and clinical — Drs. I. W. Hall and G. Herxheimer (R.), 256.
Paton, Dr. D. N.—Essentials of human physiology (R.), 376.
Penny, Obituary notice of William John, 92.
Pericarditis, 49.
Pericarditis, Paracentesis of, 51, 52.
Pharmacy and pharmaceutical chemistry, The progress of — O. C. M. Davis, 120.
Philology, Medical—L. M. Griffiths (R.), 165.
Phthisis, Laryngeal—R. Lake (R.), 377.
Phthisis, The voluntary notification of—Dr. D. S. Davies, 351.

Physical education and improvement, Proposed national league for, 385.
Physiology, An introduction to—Dr. L. A. H. Lack (R.), 375.
Physiology, Essentials of human—Dr. D. N. Paton (R.), 376.
Physiology, Exercises in practical—Dr. A. D. Waller (R.), 263.
Probyn-Williams, Dr. R. J.—Golden rules of anæsthesia (R.), 70.
Prostate, Carcinoma of the, 374.
Prostate, Enlargement of the—Dr. C. M. Moullin (R.), 71.
Prostate gland, Development and anatomy of the—Dr. W. G. Richardson (R.), 256.
Prostatectomy, 244.
Puerperal sepsis, 156.

Rawling, Dr. L. B.—Landmarks and surface markings of the human body (R.), 60.
Rectal charts—Dr. C. H. Leaf (R.), 262.
Rectum and anus, Diseases of the—Dr. C. H. Leaf (R.), 262.
Reed, Dr. B.—Lectures on diseases of the stomach and intestines (R.), 161.
Refraction, Errors of—Dr. C. Blair (R.), 377; Dr. H. B. Grimsdale (R.), 268.
Rheumatic diseases, The—Dr. J. O. Symes (R.), 163.
Rhinology, Report on—Dr. P. W. Williams, 57.
Richardson, Dr. W. G.—On the development and anatomy of the prostate gland (R.), 256.
Rockefeller Institute for Medical Research, Studies from the (R.), 67.
Röntgen rays. *See* X-rays.

St. Bartholomew's Hospital reports (R.), 167.
St. Thomas's Hospital reports (R.), 168.
Sanatorium treatment of phthisis, 173.
Santi, Dr. P. R. W. De—Malignant disease of the larynx (R.), 65.
Sclerotic, Trans-illumination of the, 250.
Section cases, The preparation and after-treatment of—Dr. W. J. S. McKay (R.), 162.
Semi-lunar bone, Dislocation of, 372.
Sequeira, Dr. J. H.—An elementary treatise on the light treatment for nurses (R.), 171.
Serums, vaccines and toxines—Dr. W. C. Bosanquet (R.), 264.
Services and colour blindness, The, 253.
Shaw, Dr. H. B.—Organotherapy (R.), 375.
Shaw-Mackenzie, Dr. J. A.—Some methods of hypodermic medication in the treatment of inoperable cancer (R.), 171.
Shock, Surgical, 153.
Sick, Preparations for the, 76, 177, 278, 387.
Smith, Dr. R. S.—Some notes on examinations for life assurance, 11; The Long Fox lecture, 317.
Smithsonian Institution, Annual report of the (R.), 165.
Society, Bristol Medico-Chirurgical, 84, 184, 395.
Spine, Lateral curvature of the—R. Barwell (R.), 169.
Sprue—Dr. C. Begg, 138.
Stewart, J.—Inebriety and the so-called cures, 144.
Stomach and intestines, Diseases of the—Dr. B. Reed (R.), 161.
Stuart-Low, W.—Mucous membranes, normal and abnormal (R.), 378.
Surgery, Aids to—Dr. J. Cunning (R.), 169.
Surgery, Reports on—T. Carwardine, 244; Dr. J. Lacy Firth, 53; C. A. Morton, 153; Dr. J. Swain, 371.
Surgical operations, Student's handbook of—Sir F. Treves (R.), 69.
Surgical pathology—W. J. Walsham (R.), 265.
Swain, Dr. J.—Report on surgery, 371; The surgical aspect of cholelithiasis, 208.
Swayne, Dr. W. C.—Report on obstetrics, 156.
Symes, Dr. J. O.—The rheumatic diseases (R.), 163.

Taylor, Dr. E. H.—Applied anatomy (R.), 255.

Thoracic duct, Wounds of, 53.
Thorne, Dr. L. T.—The Nauheim treatment of chronic diseases of the heart (R.), 71.
Throat, nose, and ear, Examination of the—Dr. W. Lamb (R.), 268.
Tonsillitis due to suppurative mammitis in cows, 58.
Tonsils, Advantages of enucleation of—Dr. E. W. H. Groves, 32.
Treves, Sir F. The student's handbook of surgical operations (R.), 69.
Tuberculin redivivus, 176.
Tuberculosis and immunity, 384.
Tuberculosis, The open-air treatment of pulmonary—Dr. F. W. Burton-Fanning (R.), 260.
Turner, G. R.—Clinical lectures on appendicitis, radical cure of inguinal hernia and perforating gastric ulcer (R.), 169.
Typhoid fever in U.S. military camps during the Spanish War of 1898, Report on the origin and spread of (R.), 263.

University College, Bristol, Faculty of Medicine, 380.
University College Colston Society, 73.
Ureters, Congenital dilatation of the—Dr. J. M. Fortescue-Brickdale, 231.
Urine, Incontinence of, 56.

Vaginal tumours—W. R. Williams (R.), 261.
Vallack, Dr. A. S.—The principles and practice of asepsis (R.), 265.
Ventre, Le—Drs. M. Bourcart et F. Cautru (R.), 63.
Verdauungskanal, Die krankheiten des—Dr. P. Cohnheim (R.), 259.
Vincent's angina, 57.

Waldo, Dr. H.—The causes and treatment of baldness, 107.
Walker, Dr. C. H.—Report on ophthalmology, 249.
Walker, Dr. N.—An introduction to dermatology (R.), 268.
Waller, Dr. A. D.—Exercises in practical physiology (R.), 263.
Walsham, [W. J.]—Handbook of surgical pathology (R.), 265.
Warner, Obituary notice of E. H., 189.
Wenckebach, Dr. K. F.—Arhythmia of the heart (R.), 61.
White, F. F.—The rational treatment of running ears (R.), 378.
Williams, C.—A short essay on insanity (R.), 66.
Williams, Dr P. W.—Report on laryngology and rhinology, 57.
Williams, Dr. W.—Deaths in childbed (R.), 171.
Williams, Obituary notice of Eubulus, 94.
Williams, W. R.—Vaginal tumours, with special reference to cancer and sarcoma (R.), 261.
Wills, Dr. W. K.—Acne vulgaris and its treatment, 113.
Winsley sanatorium, The, 96.
Women, Diseases of—Dr. H. Macnaughton-Jones (R.), 269.

X-ray representation and the reflecting stereoscope, Twin—Dr. W. Cotton, 216.
X-rays: their employment in cancer and other diseases—R. J. Cowen (R.), 170.

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